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PUBLICATION NO. 255

HANDBOOK

FOR

Elementary and Secondary Schools

1947

ISSUED BY THE
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
RALEIGH, NORTH CAROLINA

THE OLD NORTH STATE

(Traditional air as sung in 1926)

WILLIAM GASTON

COLLECTED AND ARRANGED BY MRS. E. E. RANDOLPH

With spirit



PUBLICATION NO. 255

HANDBOOK

FOR

Elementary and Secondary Schools

1947

PREPARED BY

DIVISION OF INSTRUCTIONAL SERVICE

J. HENRY HIGHSMITH, *Director*
A. B. COMBS, *Assistant Director*
MRS. MARY P. DOUGLAS, *School Library Adviser*
HATTIE S. PARROTT, *Associate*
H. ARNOLD PERRY, *Associate*
CHARLES E. SPENCER, *Adviser Physical, Health and Safety Education*
JULIA WETHERINGTON, *Associate*

ISSUED BY THE

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
RALEIGH, NORTH CAROLINA

NEEDS OF YOUTH AND THE SCHOOL PROGRAM

Ten common needs[1] of youth are: (1) To develop salable skills, (2) to understand the rights and duties of the citizen of a democratic society, (4) to understand the significance of the family for the individual and society, (5) to know how to purchase and use goods and services intelligently, (6) to understand the influence of science on human life, (7) to appreciate literature, art, music, and nature, (8) to be able to use their leisure time well and to budget it wisely, (9) to develop respect for other persons, and (10) to grow in their ability to think rationally.

Some of the characteristics[2] of a school program which gives proper consideration to the common and individual needs of youth are:

1. **The program is conceived of and operated as a "whole."**
2. **Stress is placed upon wholesome living.**
3. **The program makes the maximum contribution to the achievement of democratic ideals.**
4. **The program is directly related to the needs, hopes, aspirations, and capacities of young persons.**
5. **The program is rounded in the sense that it provides for worthwhile experiences in the major areas of living.**
6. **There is a desirable degree of interaction between the school and its program and the life of the community.**
7. **The program encourages the professional growth of school leaders, teachers, and staff.**
8. **The program is conceived of and operated in accordance with democratic values.**

[1] See Educational Policies Commission: **Planning for American Youth.**
[2] See **Education in the Elementary School** by Caswell.

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FOREWORD

Schools along with all other public institutions were affected by the recent World War in which this nation was engaged. Many teachers and administrators joined the armed forces or entered war industries. This produced a shortage of teachers, particularly in agriculture, industrial arts, commercial education, mathematics, science and home economics. In view of this emergency, certification requirements were modified somewhat for the duration of the war in an effort to find a sufficient number of competent teachers to carry on the educational program and to keep boys and girls from becoming war casualties.

It was also found necessary during the war to give added emphasis to some subjects which had a direct relationship to service in the armed forces of the nation. Some of these courses will be continued, since experience has demonstrated their value. For example, Physical and Health Education is provided for regularly in the elementary school and is a required course in the ninth grade or first year high school. In addition to this requirement, the subject should be offered in every year or grade. Physical fitness is essential for effective living either as a soldier or a civilian. Courses in health, nutrition, safety, and first aid should also be emphasized, as they were during the war.

There is evidence of substantial progress in carrying on the educative process in our schools and of an improved morale on the part of those who have responsibilities for school administration and instruction. I believe that this Handbook will contribute further to better conditions for living and learning of all pupils in all grades in all schools.

This publication was prepared by the members of the staff of the Division of Instructional Service. It is sent out with the hope that it will be helpful to administrators, supervisors and teachers in their efforts to provide adequate educational opportunities for all the boys and girls in North Carolina.

Clyde A. Erwin

State Superintendent of Public Instruction

1947

PREFACE

This Handbook for Elementary and Secondary Schools is designed to supply information needed by superintendents, principals and teachers in the public schools of the State. It covers the program in both elementary schools and high schools, indicating that we regard the process of education as a continuous process from the first through the twelfth grade. It is hoped that this publication will be helpful from the standpoint of answering questions which arise with reference to administration, organization and supervision of schools and that it will be suggestive of desirable activities which should be undertaken for more effective instruction.

It will be observed that this Handbook consists of three parts:

In Part I the standards for accreditment of elementary and secondary schools are set up. The suggested standards are not meant as limits to what may be undertaken in any school, but represent the minimum necessary for the creation of a satisfactory teaching and learning situation. Lines along which improvement can be made will suggest themselves to many administrators and teachers, and it is hoped that many schools in providing educational opportunities will go far beyond the minimum suggested in the requirements for accreditment. Our effort is to indicate what may be regarded as a good elementary school or a good high school. It is admitted, of course, that every child should have training in a good school, and the purpose of standardization and accreditment is to indicate how a satisfactory situation can be created and operated.

In Part II various aspects of public school work are discussed, particularly those having to do with the materials necessary to successful instruction. More and more it is recognized that abundant materials are necessary in order for pupils to have satisfactory educative experiences. It is hoped that provisions will be made for various types of instructional materials to the end that learning on the part of boys and girls may be facilitated and accelerated.

Part III undertakes to present the various course of study publications and to suggest the use of such bulletins in the improvement of instruction.

We hope that this Handbook will aid and guide both the teacher and the administrator in the administration of better schools for all North Carolina boys and girls.

J. HENRY HIGHSMITH, *Director*
Division of Instructional Service

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INTRODUCTION

LEGAL PROVISIONS FOR PUBLIC SCHOOLS

The State Board of Education

Amendments to the Constitution providing for the organization of the State Board of Education were voted in 1942 and 1944. These amendments rewrote sections 8 and 9 of Article IX, which now read as follows:

"SEC. 8. **State Board of Education.** The general supervision and administration of the free public school system, and of the educational funds provided for the support thereof, except those mentioned in Section five of this Article, shall, from and after the first day of April, one thousand nine hundred and forty-five, be vested in the State Board of Education to consist of the Lieutenant Governor, State Treasurer, the Superintendent of Public Instruction, and ten members to be appointed by the Governor, subject to confirmation by the General Assembly in joint session. The General Assembly shall divide the State into eight educational districts, which may be altered from time to time by the General Assembly. Of the appointive members of the State Board of Education one shall be appointed from each of the eight educational districts, and two shall be appointed as members at large. The first appointments under this section shall be: Two members appointed from educational districts for terms of two years; two members appointed from educational districts for terms of four years; two members appointed from educational districts for terms of six years; and two members appointed from educational districts for terms of eight years. One member at large shall be appointed for a period of four years and one member at large shall be appointed for a period of eight years. All subsequent appointments shall be for terms of eight years. Any appointments to fill vacancies shall be made by the Governor for the unexpired term, which appointment shall not be subject to confirmation. The State Superintendent of Public Instruction shall be the administrative head of the public school system and shall be secretary of the board. The board shall elect a chairman and vice-chairman. A majority of the board shall constitute a quorum for the transaction of business. The per diem and expenses of the appointive members shall be provided by the General Assembly.

"SEC. 9. **Powers and Duties of the Board.** The State Board of Education shall succeed to all the powers and trusts of the President and Directors of the Literary Fund of North Carolina and the State Board of Education as heretofore constituted. The State Board of Education shall have power to divide the State into a convenient number of school districts; to regulate the grade, salary and qualifications of teachers; to provide for the selection and adoption of text books to be used in the public schools; to apportion and equalize the public school funds over the State; and generally to supervise and administer the free public school system of the State and make all needful rules and regulations in relation thereto. All the powers enumerated in this section shall be exercisd in conformity with this Constitution and subject to such laws as may be enacted from time to time by the General Assembly."

Chapter 530, of the 1945 Session Laws of North Carolina, "An Act to Provide for the Fiscal Control of the State Public School: Certain Duties of the State Board of Education Defined: The Appointment and Duties of a Controller and other Related Powers and Duties Defined," undertakes to clarify the duties of the State Board of Education in connection with the fiscal affairs in maintaining and conducting the public schools. (See page 39, Public School Laws, 1945, A supplement to Chapter 115 General Statutes of North Carolina, 1943.)

The Public School System

The following sections of the law define the public school system as to the number of grades or years. Most schools in North Carolina now offer the twelve year program as authorized by the General Assembly of 1941.

115-4. **The school system defined.**—The school system of each county shall consist of eleven years or grades, except when the provisions of 115-5 to 115-7 have been complied with, in which event the system shall consist of twelve years or grades; and shall be graded on the basis of a school year of not less than one hundred and eighty days. The first seven or eight years or grades shall be styled the elementary school, and the remaining years or grades shall be styled the high school: Provided, the system, for convenience in administration, may be divided into three parts, the elementary school, consisting of the first six or seven grades, and a junior and senior high school, embracing the remaining grades, if better educational advantages may be supplied. (1923, c. 136, s. 2; 1941, c. 158, s. 1; 1943, c. 255, s. 2; C. S. 5386.)

115-5. **Twelve grades authorized upon request by local unit.**—Upon the request of the county board of education or the board of trustees of a city administrative unit, the state board of education shall provide for the operation of a school system to embrace twelve grades in accordance with such plans as may be promulgated by the state superintendent of public instruction in any high school district for which such request is made at the time the organization statement is submitted. (1941, c. 158, s. 1; 1943, c. 721, s. 8.)

115-6. **Provision for cost of operating twelve grades.**—When the request for the extension of the system of the public school to embrace twelve grades is submitted as provided in 115-5, the cost of the same shall be paid from the appropriation of the state nine months' school term in the same manner and on the same standards, subject to the provisions of 115-5 to 115-7, as provided in the "School Machinery Act." (1941, c. 158, s. 2; 1943, c. 255, s. 2.)

115-7. **Application blanks for requesting twelve grades; allotment of teachers.**—The state superintendent of public instruction and the state board of education shall provide the necessary blanks and forms for requesting an extension of the public school system to embrace twelve grades as herein provided, in the organization statements to be submitted by the several administrative units of the state in preparation for the school term of one thousand nine hundred and forty-two-forty-three, and annually thereafter, and the state board of education shall allot teachers for the school year one thousand nine hundred and forty-two-forty-three

for any district heretofore operating a school program embracing twelve grades upon the basis of attendance for the preceding year: Provided, that for any district requesting to operate for the first time a system embracing twelve grades the allotment of teachers shall be based on a fair and equitable estimate of the prospective increase in attendance, as submitted by the requesting unit, and the average attendance for the preceding year. (1941, c. 158, s. 3; 1943, c. 721, s. 8)

School Organization

The following section of the School Machinery Act gives the State Board of Education authority to establish elementary and high schools:

115-352. **School Organization.**—All school districts, special tax, special charter, or otherwise, as constituted on May 15, 1933, are hereby declared non-existent as of that date; and it shall be unlawful for any taxes to be levied in said district for school operating purposes except as provided in this article. The state board of education, in making provision for the operation of the schools, shall classify each county as an administrative unit, and shall, with the advice of the county boards of education, make a careful study of the district organization as the same was constituted under the authority of § 4 of chapter 562 of the Public Laws of 1933, and as modified by subsequent school machinery act. The state board of education may modify such district organization when it is deemed necessary for the economical administration and operation of the state school system, and it shall determine whether there shall be operated in such district an elementary or a union school. Provisions shall not be made for a high school with an average daily attendance of less than sixty pupils, nor an elementary school with an average daily attendance of less than twenty-five pupils, unless a careful survey by the state superintendent of public instruction and the state board of education reveals that geographic or other conditions make it impracticable to provide for them otherwise. Funds shall not be made available for such schools until the said survey has been completed and such schools have been set up by the said board.

It shall be within the discretion of the state board of education, whereever it shall appear to be more economical for the efficient operation of the schools, to transfer children living in one administrative unit or district to another administrative unit or district for the full term of such school without the payment of tuition: Provided, that sufficient space is available in the buildings of such unit or district to which the said children are transferred: Provided further, the provision as to the non-payment of tuition shall not apply to children who have not been transferred as set out in this section.

City administrative units as now constituted shall be dealt with by the state school authorities in all matters of school administration in the same way and manner as are county administrative units: *Provided, that the State Board of Education may, in its discretion, alter the boundaries of any city administrative unit when in the opinion of the State Board of Education such change is desirable for better school administration*: Provided, that in all city administrative units as now constituted the trustees of the said special charter districts included in said city administrative unit, and their duly elected successors, shall be retained as the governing

body of such district; and the title to all property of the said special charter district shall remain with such trustees, or their duly chosen successors; and the title to all school property hereafter acquired or constructed within the said city administrative unit, shall be taken and held in the name of the trustees of said city administrative unit; and the county board of commissioners of any county shall provide funds for the erection or repair of necessary school buildings on property, the title to which is held by the board of trustees as aforesaid, and the provisions of § 115-88, to the extent in conflict herewith, is hereby repealed: Provided, that nothing in this subchapter shall prevent city administrative units, as now established, from consolidating with the county administrative unit in which such city administrative unit is located, upon petition of the trustees of the said city administrative unit and the approval of the county board of educaton and the county board of commissioners in said county: Provided, further, that nothing in this subchapter shall affect the right of any special charter district, or special tax district which now exists for the purpose of retiring debt service, to have the indebtedness of such district taken over by the county as provided by existing law, and nothing herein shall be construed to restrict the county board of education and/or the board of county commissioners in causing such indebtedness to be assumed by the county as provided by existing law.

The board of trustees for any special charter district in any city administrative unit shall be appointed as now provided by law. If no provision is made by law for the filling of vacancies in the membership of such board of trustees, such vacancy may be filled by the governing body of the city or town embraced by said administrative unit.

In all cases where title to property has been vested in the trustees of a special charter district which has been abolished and has not been reorganized, title to such property shall be vested in the county board of education of the county embracing such special charter district. (1939, c. 358, s. 5; 1943, c. 721, s. 8; 1945, c. 970, s. 4.)

PART I

Requirements For Accredited Schools

Requirements for accreditment are set up as an indication of what constitutes or suggests a fairly satisfactory learning situation for boys and girls. In addition to the requirements as enumerated, there are other elements or factors regarded as subjective which should be taken into consideration.

Thus the evaluative items include the philosophy of the school staff, the objectives of the school, the school organization and administration, the pupil activities program, the library service, the guidance service, the curriculum, including instruction and expected outcomes, the school equipment and supplies, and the adequacy of the building and grounds.

The main purpose of accreditment is to promote the best possible conditions in the school as a whole to the end that maximal, desirable results for all boys and girls may be achieved.

A. THE ELEMENTARY SCHOOL

CURRICULUM

A school to become accredited must have a six, seven or eight year program based on suggestions and practices outlined in the North Carolina school curriculum bulletins. The practices of the total school program should be centered towards the maximal development of each child, according to his capacity, in appreciation subjects, in creative arts, in basic skills, and in personality.

INSTRUCTION

Accredited schools will be expected to have:

1. Methods, procedures, and practices in the instructional program based upon modern educational theory.
2. A minimum of six whole time teachers for six grades. Schools of four and five teachers may become "Recognized" schools. A "Recognized" school is one that meets all requirements except number of teachers.
3. Either Primary or Grammar Grade certificates for all teachers, with a majority Class A. Blanket certificates held by teachers who have had experience in grammar grade work will be approved. Special teachers of music,

art, physical and health education, and full-time librarians should hold certificates in their fields. High school certificates will be recognized in regular grade work which includes all subjects, but not for departmental instruction in a selected group of subjects in grades seven and eight.

ORGANIZATION AND ADMINISTRATION

1. **Distribution of Pupils.**

Administrators are urged to organize their schools so as to achieve a distribution of pupils which will approximately equalize the number of pupils under any one teacher. Combination grades made of sections of consecutive grades, such as grades two and three, grades three and four, and the like, are preferable to having extremely small and extremely large single grades in the school.

2. **Administrative Details.**

Careful attention should be given to all administrative details, such as cleanliness and care of school property; selection, storage, and use of supplies and equipment; and accuracy and completeness of permanent school records.

3. **Daily-Weekly Schedules.**

The daily-weekly schedules and programs of work should provide for all the subject areas in the curriculum, including activities in dramatics, music, art and physical education. The school should carry out the suggestions on Daily-Weekly Schedules and Programs of Work in this Handbook, p. 121, and in mimeographed bulletins from the Division of Instructional Service.

4. **School Lunch Period.**

The school lunch period should be supervised by each teacher. Food menus and the selection of foods are a part of the health teaching program. The lunch period and the lunchroom provide for more than satisfying hunger. An opportunity for social and emotional development and an environment conducive to this development is provided. This environment might be divided into the following phases:

Physical. The lunchroom proper should be adequate in size, light, attractive, sanitary, and reasonably free from kitchen noises and odors. The workers should be clean and neat, with wholesome attitudes.

Meals. Nutritionally adequate meats or meat substitutes should be served regularly with each meal, including wholesome foods in interesting combinations of color and flavor.

Time. The minimum time allotted for eating should be 20 to 25 minutes, with additional time allowed for handwashing and serving.

Supervision. The eating of the meal should be so supervised as to promote desirable social environment. This supervision might include development of desirable food habits and table manners; training in conversation with respect to topics and tone, with each child participating and forming the habit of remaining seated at the table until all are finished. Principals and teachers should be familiar with the bulletins on nutrition and lunch rooms prepared and distributed by the Child Feeding Program Supervisors and by the State Board of Health. Of interest to principals and superintendents who are developing lunch rooms are the bulletins "Space and Equipment of a Lunchroom" and "The Sanitary Code."

5. Records.

The school files should contain an up-to-date and accurate scholastic, attendance and health records for each child. In addition to the regular health card, the Information Blank for School Beginners should be used for the first grade. The North Carolina Cumulative Record folder is recommended for all grades, one through twelve. This folder should include important (not minor) behavior notes, standard test profile sheets, and other items useful in interpreting the child's growth and development. Register sheets may be filed either in envelopes or in the Cumulative Record folder. The child's folder or his permanent record envelope should also contain his school health examinations and a record of the corrections made.

6. Reports to Parents.

A statement of the progress of the child should be sent to the parents periodically. This record should take account of the child's capacities in the areas of the school curriculum and of his growth in personal assets in development. His development in social relationships, his work habits, his interests, his self-control, and his initiative are important parts of his growth. Where the teacher's written statement is used in the primary grades, care should be taken to make the record of conditions, need and progress as objective as can be given, and as free from teacher's judgment and opinions as can be made. A suggested pupil report card has been devised and may be purchased from the North Carolina School for the Deaf, Morganton.

INSTRUCTIONAL EQUIPMENT

1. **Library.**

A basic minimum collection of 500 books exclusive of duplicates, and including designated subjects. Three books per pupil in average daily attendance are required, regardless of the size of the school. (See Library, p. 70)

2. **Dictionaries.**

A minimum of 12 dictionaries per classroom in grades four through eight. One teacher's desk dictionary for each room, grades 1-8. One unabridged dictionary with recent copyright date for the school. (See Library, p. 26)

3. **Maps and Globes.**

The number of maps and globes will vary with the size of the school. Minimum requirements for a 7 to 12 teacher school are:

a. Eight physical-political maps for a six year school curriculum. Where grades 7 and 8 are not contained in a school, the maps of Africa and Asia may be omitted. Where the seventh grade is contained in the high school, a map of the Western Hemisphere of North and South America and one of the World are required. For the eighth year in the high school building, maps of North Carolina, the World and the United States are required. For a five year curriculum the school may exclude the maps of Asia, Europe, Africa, and Australia.

b. Three blackboard outline maps, the U. S., World, and North Carolina. One of these may be a reversible map of the U. S. and World.

c. Two political maps, one of the United States and one of North Carolina.

d. Ten United States history maps. Where grades 7 and 8 are not contained in a school, six history maps will be acceptable.

e. One 16" globe, physical-political.

f. One atlas for grades five through eight. (See Library Catalog for list.)

For schools with thirteen or more teachers, secure the minimum requirements plus an additional physical-political map of the World, North America, South America, United States, and North Carolina, and an additional 16" globe.

Maps, charts, and globes are supplied by the following companies:

George F. Cram Co., Inc., Indianapolis, Indiana.
Denoyer-Geppert Co., 5235-5257 Ravenswood Ave., Chicago, Illinois.
A. J. Nystrom and Company, 3333 Elston Ave., Chicago, Ill.

R. T. Rowland, Waxhaw, N. C., agent for maps published by C. S. Hammond and Co.
Weber Costello Company, Chicago Heights, Illinois.
Refer to Maps, p 77)

4. **Supplementary Readers.**

A minimum of 80 books per grade for a five to an eight teacher school. Additional readers in sets of 15 to 20 books will be required for any grade that has more than one section. A minimum of five copies of any one text in any one field must be provided for credit. There should be a varied selection, including history, science, music, art, geography and travel, poetry, literature, health and citizenship.

5. **Art Equipment.**

a. Textbooks for children in grades 1-8. Supplied free on basis of State regulations.

b. Ten art prints for each grade, selected from the lists in the course of study, *Art In The Public Schools*, p. 44-52.

c. Detail materials. (See Instructional Materials for each classroom, p 18)

6. **Music Equipment.**

a. Textbooks for children in grades 2-8. A teacher's book is supplied for grade 1. Supplied free on basis of State regulation.

b. A phonograph and a minimum of 12 records, selected from the suggested lists in the State bulletin, *Music in the Public Schools*, Publication No. 238, p. 70-115. (See Music, p 201)

c. Piano.

d. Instruments for toy orchestra.

e. One set of pictures of orchestral instruments.

f. Song books suitable for assemblies.
(Refer to Music course of study, p. 104.)

7. **Penmanship Equipment.**

a. Textbooks for children in grades 1-8. Supplied free on the basis of State regulations.

b. One set of handwriting scales for use in grades 1-9; alphabet perception cards for grades 1-9; one diagnostic chart for discovering and correcting handwriting faults.

c. Detail materials. (See Instructional Materials for each classroom, p. 19)

8. **Manuals.**

Manuals for free basal texts in each grade in music, reading, writing, and art.

9. **Simple Visual Aids.**
 a. Picture file.
 b. Number charts.
 c. Number games.
 d. Counting materials.
 e. Museum.
 f. Clock or clock face.

10. **Tools.**
 A set for each 8 teachers or fraction thereof; one small strong saw, one vise, one screw driver, one coping saw, one small large-headed hammer, nails, and varying size tacks.

11. **Flags.**
 One United States, one North Carolina.

12. **Equipment for indoor games** for pupils at primary and upper elementary grade levels.

GENERAL EQUIPMENT

Minimum Requirements.

1. Principal's office and equipment.
2. Filing space for school records.
3. Auditorium and equipment.
4. Storage space for general supplies.
5. General bulletin board.
6. Janitorial supplies and storage space.
7. Duplicator, mimeograph or hectograph for preparing classroom materials.
8. Printing press for primary grades.
9. Paper cutter.
10. First aid kit.
11. Emergency rest room and equipped cot.
12. Scales for weighing children.

Recommended, But Not Required.

1. Cafeteria or lunchroom.
2. Rugs, cots or other provisions for rest periods in primary grades.
3. Playground apparatus and equipment.
4. Running water and plug for electric attachment in each room.
5. Lantern and lantern slides.
6. Motion picture machine and films.

7. At least one room which can be darkened so as to use lantern and motion picture machine.
8. Radio.
9. Variety of good pictures, panels, statuary, vases and other objects of art in each classroom.
10. Growing plants.
11. Aquarium or terrarium.
12. Weaving frame and weaving materials.
13. Accessory material for basal reading texts: Sentence and phrase cards for pre-primer and primer level one; word cards for pre-primer and primer level one; and word cards for first reader.

CLASSROOM EQUIPMENT

Minimum Requirements.

1. Recitation chairs, 15 to 20, in each first and second grade classroom. Also recommended for grade three. Movable furniture, individual tables and good posture chairs, are recommended for all grades. It is *very important* that table and chair heights are properly matched and that space is provided for children's materials.

 Note: Because of different sizes of children in classrooms, each room should have chairs, tables or desks of at least three different heights. For illustration, table heights in grade one should be 20, 22, and 24 inches.

2. Adequate lighting in correct position and in candle-power.
3. Teacher's desk and chair.
4. Drawer space for work material for each pupil, approximate size 12" x 14" x 16".
5. Shelving adequate for books.
6. Work table and reading table.
7. Provision for care of lunches which are brought to school. (Screened boxes or cabinet.)
8. Adjustable window shades where needed.
9. A bulletin board, minimum size 8′ to 10′ x 3′.
10. Coatrooms or screen boards, with a hook for each child.
11. Cabinet or closet for classroom supplies and teachers' or pupils' unfinished work. Approximate size 2′ x 2½′ x 4′, with wide shelves, door, lock and key.
12. A full length mirror for use of pupils.

INSTRUCTIONAL MATERIALS FOR EACH CLASSROOM

Art.

1. Copies of basal text in drawing distributed free on the basis of State regulation. (See *Basis for Distribution Free Textbooks,* issued by Division of Textbooks.) Art books are supplied on the same basis as music textbooks. (See Music, below)
2. An easel at least 24" x 30".
3. Crayon. A continuous supply with at least one box per pupil.
4. Powder paint. Set of six colors, in pound or pint size for each teacher. (Refer to *Art In The Public Schools,* p. 129.)
5. Art brushes, 2 dozen in the following sizes: ½ doz. ½" to 1" width; ½ doz. each of sizes 3, 5, and 7.
6. Modeling clay. Approximately 10 pounds.
7. Manila drawing paper. White 9" x 12", 200 sheets; cream, 9" x 12", 200 sheets.
8. Manila tagboard, 24" x 36", 20 sheets.
9. Bogus paper, 18" x 24", 250 sheets.
10. Unfinished newsprint, 18" x 24" or 24" x 36", 500 sheets.
11. Paste. 2 quarts; 1 doz. paste brushes.
12. Scissors. 2 doz., blunt point.
13. Yard stick and 2 doz. rulers.

Music.

1. Copies of basal text in music, supplied free on basis of State regulation as follows: "Kindergarten and first grade music: This book is supplied as a desk copy for each full time first grade teacher.

 Music Hour I (Grade 2)
 Music Hour II (Grade 3)
 Music Hour III (Grade 4)
 Music Hour IV (Grades 5 and 6)
 Music Hour V (Grades 7 and 8)

 One music book should be furnished for each child in a grade where there is only one section of that grade. Where there are two sections of a grade, one music book should be furnished for each child in the larger section. Where there are three sections of a grade, two sets of books should be

furnished. If a school has four sections of a grade, two sets of books will be needed. In this manner, one set of books should be provided for each two sections, or a fraction thereof. The following figures will help to illustrate the distribution of books in schools with large and small enrollments in the fourth grade.

School No.	*Number of Fourth Grade Pupils*	*Number of Books Needed*
1.	65	35
2.	80	42
3.	24	24
4.	7	7
5.	120	88

2. One staff liner.
3. Each teacher shall own a pitch-pipe.
4. The music manual for the basal series.
(See Bulletin No. 239, *Music in the Public Schools,* p. 104.)

Penmanship.

1. Copies of basal text in penmanship supplied free on the basis of State regulations. (Same numbers per grade as for music, except that there is a choice of manuscript or cursive writing books in grades one and two.)
2. A pencil for each pupil. Soft, large lead, pencil for grades one and two; pencil with medium soft lead and with eraser for grades 3-8.
3. Pen and staff, points, and ink for each pupil in grades 5-8. Recommended also for grade four.
4. Paper with guide lines for first grade and other grades where needed.
5. Penmanship practice paper, continuous supply.
6. Handwriting scale recommended for each classroom.

Other Subjects.

Reading. Grade 1. Each school should have the basal readers on the basis of the *Basis for Distribution Free Textbooks,* issued by the Division of Textbooks, as follows:

"Grade I. Reading in the lower grades is always taught in small groups and there is no need to have more books than there are pupils in the reading group. This year (1946-47) four reading books are available in the first grade—two pre-

primer and primer combinations and two first readers. Each reader in the first grade is distributed on the basis of a maximum of 25 books for each 40 pupils. In schools having fewer than 25 pupils in the first grade, one book of each title is furnished for each child.

"Reading,	Grades 2-8	One book furnished per pupil per grade. All of these subjects are required, but the use of a text in language is optional in the third grade. In some subjects two or more texts have been adopted. However, the basis of distribution is one book per subject per child, rather than one of each title."
Health	Grades 4-8	
Language,	Grades 3-8	
Spelling,	Grades 2-8	
Geography,	Grades 4-8	
Arithmetic,	Grades 3-8	
History,	Grades 5-8	
Science,	Grade 8	

LIBRARY

Minimum Requirements.

A. Books.

Basic book collection averaging three books per pupil in average daily attendance and including a minimum of 500 titles, selected from the State approved lists of books for elementary schools and including the distribution indicated below. Duplications are not counted in the first 500 books. Not more than four copies of a title should be put in the library records. Textbooks are not counted as library books.

1. Encyclopedia. One approved set, copyrighted within ten-year period. Encyclopedias can be purchased through the Division of Textbooks, State Board of Education. Sets listed in order of recommendation. If more than one set is secured it is desirable to add a different one, rather than to duplicate, until all three sets are owned.

 Compton's Pictured Encyclopedia. 15 vols.
 World Book Encyclopedia. 19 vols.
 Britannica Junior. 12 vols.

2. Unabridged dictionary. One.
 Dictionaries can be purchased from the Division of Textbooks, State Board of Education.

 Webster's New International Dictionary. Unabridged. Second Edition. Merriam.
 New Standard Dictionary. Unabridged. Funk.

3. Types of books.

Dewey Decimal Nos.	*Subject*	*Minimum No. Required*
000-099	General Works	----
030	Encyclopedias	1 set
100-199	Philosophy and Conduct	----
200-299	Religion	5
300-399	Social Science	
300-369	Civics and Citizenship	10
380-389	Communication and Transportation	10
390-395	Customs and Holidays	5
372, 398	Storytelling and Fairy Tales	15
400-499	Languages	
423	English Dictionaries (unabridged)	1
500-599	Science	20
600-699	Useful Arts	
600-609, 620-679, 690-699	Inventions and Machinery	15
610-619	Health	10
680	Industrial Arts	5
700-799	Fine Arts	
700-759	Art	10
780-789	Music	10
800-899	Literature	
821, 821.8	Poetry	20
900-999	History	
912	Atlas	1
910-919	Geography and Travel	50
900-909, 920-999	Biography and History	50
F	Fiction	125
E	Easy Books for grades 1-3	125

Additional books to average three per pupil selected from various classifications.

4. State approved lists of books for elementary schools.

N.C.E.A. *Library Book Catalogue.*

Division of Textbooks, State Board of Education. *Book List for the Elementary School Library.*

Rue. *Subject Index to Books for Primary Grades, Subject Index to Books for Intermediate Grades,* and their supplements. American Library Association.

Children's Catalog and its supplements. H. W. Wilson Co.

A Basic Book Collection for Elementary Grades. American Library Association.

Beust. *500 Books for Children* and its supplement. U. S. Superintendent of Documents.

B. Magazines.

Minimum of five magazines selected from the following list is required. Titles recommended for first choice are doubled starred, for next choice single starred.

SUITABLE FOR PRIMARY GRADES

****Child Life*
Children's Activities
Children's Playmate
***Jack and Jill*
My Weekly Reader (primary editions)
****Story Parade*
Wee Wisdom

SUITABLE FOR UPPER GRADES

All magazines listed for primary grades.

Air Youth Horizons
**American Girl*
American Junior Red Cross News
American Junior Red Cross Journal
Better Homes and Gardens
***Boys' Life*
Building America
Calling All Girls
Current Events
**Flying*
Holiday
Horn Book Magazine
Hygeia
Junior Arts and Activities
Junior Natural History Magazine
Junior Scholastic
Model Airplane News
My Weekly Reader (upper grade editions)
***National Geographic Magazine*
National Geographic News Bulletin
National Humane Review
Nature Magazine
**Newsweek*
Open Road for Boys
Plays, the Drama Magazine for Young People
Popular Homecraft
***Popular Mechanics*
Popular Science Monthly
School Arts Magazine
Science News Letter
**State Magazine*
Travel
We the People
Young America
Young Citizen
Young Wings

Magazine subscriptions can be placed with reliable dealers who give combinations and discounts not possible with individual subscriptions. Ask for bids. The following dealers are satisfactory:

Mayfair Agency, 51 East 33rd St., New York 16, N. Y.
F. W. Faxon Co., 83 Francis St., Boston, Mass.
Washington News Co., 1121 Fifth St., Washington, D. C.
Upton G. Wilson Magazine Agency, Madison, N. C.

C. Library Organization. (See *North Carolina School Library Handbook.*)

1. Accession record kept up-to-date.
2. Books classified and marked by the Dewey decimal classification system. Proper classification numbers are given in the N.C.E.A. *Library Book Catalogue,* Division of Textbooks' *Book List for the Elementary School Library,* and *Children's Catalog* listed above. If a list of books giving author, title, publisher, and leaving a one-inch margin on the right-hand side of the page is sent to the State School Library Adviser, State Department of Public Instruction, Raleigh, N. C., she will indicate the correct classification number for approved titles not included in the two North Carolina lists noted.
3. Simple shelf list on cards.
4. Card loan system with record of number of books loaned (circulated) kept.

5. Record of yearly additions, discards, total number of books, circulation statistics.
6. State school library report blank filled out and sent in annually.

D. Instruction in the use of books and libraries. (See *North Carolina School Library Handbook,* Publication No. 197, Chapter III and Chapter VII.)

1. Care of books.
2. Make-up and printed parts of books.
3. Use of the dictionary.
4. Use of the encyclopedia.
5. Arrangement of books in the library.
6. Classification of books.
7. Use of the card catalog. (This is taught if there is a card catalog.)
8. Simple bibliography making.
9. Note taking.
10. Special reference books—atlas, handbook of games, handbook of science, etc.

E. Library room, furniture, and equipment.

1. Book shelving to accommodate books and allow for growth.
2. Central library room required for elementary schools with Acc. or I ratings.

F. Library budget.

Annual expenditure of at least 25¢ per year per pupil in average daily attendance for books and magazines.

G. Librarian.

1. Teacher designated to be responsible for organization and reports for the elementary school library who should not be assigned other extra-classroom duties.
2. Teacher-librarian with minimum of 12 semester hours in library science required for schools with I ratings. Teacher-librarian should not be assigned outside activities, such as bus duty, glee club, cafeteria duty, and the like.

Recommended, but not required.

A. Books.

1. Book collection of ten books per pupil selected from approved lists.

2. Balanced book collection to meet informational and recreational needs. The following percentage distribution will serve as a guide:

Dewey Decimal Nos.	*Subject*	*Percentage*
000-099	General Works	2%
100-199	Philosophy and Conduct	½%
200-299	Religion and Mythology	1%
300-397	Social Science	5%
400-499	Languages	½%
500-599	Science	8%
600-699	Useful Arts	5%
700-799	Fine Arts	3%
800-899	Literature	5%
910-919	Geography and Travel	12½%
900-909, 920-999	History and Biography	12½%
F, 372, 398	Fiction and Fairy Tales	20%
E	Easy Books for grades 1-3	25%

3. Indexes, reference tools for locating information.

Brewton. *Index to Children's Poetry.* H. W. Wilson. Price based on school membership.

Briggs. *Subject Index to Children's Plays.* A.L.A. $3.50.

Children's Catalog. H. W. Wilson. Price based on school membership.

Educational Film Catalog. H. W. Wilson. $3.00.

Index to Folk Dances and Singing Games. A.L.A. $2.00.

Rue. *Subject Index to Books for Primary Grades.* A.L.A. $2.50.

Rue. *Subject Index to Books for Intermediate Grades.* A.L.A. $4.00. First Supplement, $2.50. Both for $5.00.

4. Special reference books, such as:

Lincoln Library of Essential Information. Frontier Press. $17.50.

World Almanac (annual publication). World-Telegram. $1.00.

Comstock. *Handbook of Nature-Study.* Comstock. $4.50.

Pearson. *Birds of North Carolina.* N. C. State Museum. $3.50.

Collingwood. *Knowing Your Trees.* American Forestry Association. $2.50.

American Red Cross. *First Aid Textbook.* Blakiston. $1.00.

Gardner. *Art Through the Ages.* Harcourt. $4.00.

Hoyt. *New Cyclopedia of Practical Quotations.* Funk. $7.50.

Johnson and Scott. *Anthology of Children's Literature.* Sch. ed. Houghton. $3.75.

South American Handbook. H. W. Wilson. $1.00.

Kunitz and Haycraft. *Junior Book of Authors.* H. W. Wilson. $3.25.

B. Magazines.
Additional magazines above minimum requirements.

C. Library organization.
Dictionary card catalog with author, title, and subject cards.

D. Library room, furniture, and equipment. (See *Planning and Equipping the School Library.* Publication No. 257. State Department of Public Instruction.)

1. Central library room large enough and equipped to seat largest class group with double the space for schools of more than 500 enrollment. Room 22′ x 35′ can be planned to seat 36 elementary school pupils and to allow space for a small charging desk. A room at least 50′ long is recommended. Larger schools require more space.
2. Workroom with running water and electrical outlets for librarian.
3. Storage room for back issues of magazines, books to be sent to binder, etc.
4. Standard book shelving.
Shelving should not be over 6 ft. high.
Each shelf 36 in. long with solid upright between sections. Shelves and uprights should be made of 7/8 in. or 13/16 in. boards. When stationary shelving is built, 10 inches in the clear should be provided between shelves. Sections for reference books and for large picture books should have 12-14 in. between shelves. This provision should be made as sections, *not* as the bottom shelf in several sections. Regular shelves should be 8 in. in depth. Those for picture books should be 10-12 in. in depth.
Sloping shelves for magazines and picture books are desirable.
Depth of sloping shelves 14-16 inches.
A 2-in. cornice and a 6-8 in. base are satisfactory.
All projections along uprights, tops, and sides should be avoided.
5. Tables 34 in. to 36 in. by 60 in. to seat not more than six. Chairs of suitable height for tables. Longer

tables will not fit in room 22 ft. wide. Round tables 4 ft. in diameter to seat four.

15-in. chairs for tables 25 in. high.
17-in. chairs for tables 27 in. high.
18-in. chairs for tables 28 in. high.

6. Filing case to hold folders 10 inches by 15 inches (legal size). Not fewer than four drawers.
7. Catalog case for shelf list and card catalog.
8. Dictionary and atlas stand.
9. Bulletin boards.

E. Library budget.

Sufficient funds for needed replacements and new books, magazines and newspapers, publicity, binding, and audio-visual materials other than films will average about $1.00 per pupil in medium-sized or large-sized schools.

F. Librarian.

1. Teacher with library science training given responsibility for the library and relieved of other extra-classroom duties.
2. Full-time trained school librarian.

DICTIONARIES

A. Minimum of 12 dictionaries from approved list for each classroom in grades 5 through 8. The following are approved:

Webster's Elementary Dictionary for Boys and Girls. American. $1.36.
Thorndike-Century Junior Dictionary. Scott. $1.48.

B. One dictionary for the teacher's desk in each classroom. The following are approved:

Webster's Collegiate Dictionary. Merriam. $4.00.
Webster's Students Dictionary. American. $2.60.
Thorndike-Century Senior Dictionary. Scott. $2.72.
Macmillan Modern Dictionary. Macmillan. $3.00.
Winston Dictionary. College edition. Winston. $3.50.

C. One unabridged dictionary for the school.

Webster's New International Dictionary. Second edition. Merriam. $22.50.
New Standard Dictionary. Unabridged. Funk. $22.00.

Prices quoted are publishers' list prices, all of which are subject to discount and are available from the Division of Textbooks.

MAPS AND GLOBES

It is recommended that schools make their selection of maps, globes and charts from the lists given below. These listings and prices are in accordance with recent catalogs of the companies. In ordering maps be sure to have copies of the latest catalogs of the companies with which to check the descriptions and prices. (See p. 14 for addresses of publishers.)

It is also recommended that maps be obtained mounted singly on spring roller, or with two or more maps on one roller. Blackboard outline maps can be satisfactorily used in the mounting with plain rollers, top and bottom, to allow for the use of reversible maps.

Required Maps for Elementary Schools.

For an accredited school with a curriculum of seven or eight school years, not exceeding 13 teachers, the following maps and globes are required: one set of physical-political maps, including maps of the United States, Europe, Asia, Africa, North America, South America, Australia, and the World. (Maps showing the hemispheres on a global projection are desirable.) A school whose curriculum ends with the fifth year is not required to have Europe, Asia, Africa, and Australia in the physical-political series. Where the seventh year is contained in the high school, maps of the Western Hemisphere or North and South America, and the World are required. For the eighth year, when housed in the high school building, maps of North Carolina, the World, and the United States are required. For a school with more than 13 teachers, two maps each of the United States and the World are required.

Three blackboard outline maps are required, one reversible map of the United States and World (or singly, if preferred) and one of North Carolina.

One political map each of the United States and North Carolina is required.

The requirement for United States History maps is a selection of 10 from one of the series listed below.

One 16 inch physical-political globe is required.

I. *PHYSICAL-POLITICAL MAPS.* Select the required set from the following lists:

A. THE GEORGE F. CRAM CO., INC.

Superior Series. Hand mounted, uniform size 51 inches wide, finished with markable and washable finish.

Mtg. ZE. Single map, spring roller, steel board, each $10.80

CSP1 —United States and Possessions
CSP2 —North America
CSP3 —South America
CSP4 —Europe
CSP5 —Asia
CSP6 —Africa
CSP7 —World
CSP12—Australia

B. DENOYER-GEPPERT.

1. J-rp Series. Political names emphasized. Size 44" x 58". Political boundaries in purple. City symbols graded by population. Trunk lines and steamer routes in red; also caravan routes.

Mtg. 12. Single map, spring roller, steel board, each $ 8.00

	Miles to inch
J1rp —United States and Possessions	75
J2rp —Europe	75
J3rp —Asia	150
J4rp —Africa	115
J5rp —North America	115
J6rp —South America	115
J8rp —Western Hemisphere	300
J10rp—Australia and The Philippines	75
J9 —World	600

2. World Map.

Mtg. 12.

S9a—World Political, size 64" x 44" $11.50
S9b—World Commercial, size 64" x 44" 11.50
S9 —Combination S9a and S9b, size 64" x 80" 16.00

3. United States Map. Large size.

Mtg. 12. Spring roller, steel board 11.50

Slarp—Physical-Political, size 64" x 44", 50 miles to inch.

4. Polar World Map. On azimuthal equal area projection. Edited by Hubert A. Bauer, Ph.D. Land areas colored to show economic activities, political divisions indicated by boundaries only, centers of population by graded dots, great circle air line routes and actual commercial routes indicated.

Mtg. 12. Spring roller, steel board 9.00

J57—Polar World, size 44" x 58", 400 miles to inch.

5. Pacific Area Map. Edited by Griffith Taylor. Area covered from British Guiana on the east to India on the west, tip of South America on the south to Arctic Ocean on the north. Shows islands of the Pacific in considerable detail. Political boundaries in purple, strategic highways, seaways and airways indicated.

Mtg. 12. Spring roller, steel board 11.50

S21rp—Pacific Area, physical political, size 64" x 44", 250 miles to inch.

C. NYSTROM.

1. Atwood Series. Regional-Political. The main map is colored to show four natural surface regions: (1) young, Rugged Mountains, (2) Old Work-down Mountains, (3) Uplands and Plateaus, (4) Lowlands and Interior Plains. Appended maps and relief, rainfall, population, land use. Lambert's equal area projection is used.

Mtg. 02. Hand mounted. Spring roller on board, each 11.00

		Miles to inch
AR1	—United States, 52" x 55"	55
AR2	—Europe, 52" x 55"	55
AR3	—Asia, 52" x 55"	137½
AR4	—Africa, 44" x 65"	110
AR5	—North America, 44" x 65"	110
AR6	—South America, 44" x 65"	110
AR80	—Australia and the Far East, 44" x 65"	165

AR981—World (Summer Rainfall, Winter Rainfall), 52" x 62" (Van der Griten Projection)
AR982—World (Thermal and Vegetation Regions), 52" x 62"
AR983—World (Population and Occupations), 52" x 62".

2. Parkins Series. Physical-Political Environment Maps. Visualization in perspective of the dominant surface features of the earth. Relief like. Sizes 65" x 58".

Mtg. 02. Spring roller on board, dustproof, each $14.50

		Miles to inch
PE2	—Europe	60
PE3	—Asia	120
PE4	—Africa	96
PE5	—North America	96

3. Landform Series. Physical-Political. Size 44" x 56", except World map which is 44" x 52".

Mtg. 02. Spring roller board, dust-proof cover, each 8.25

		Miles to inch
LP1	—United States, Mexico, and Possessions	75
LP2	—Europe	75
LP3	—Asia and Australia	170
LP4	—Africa	110
LP5	—North America	110
LP6	—South America	110
LP98	—World	530

4. Finch Series—World Map. Political. New cultural map showing boundaries, cities, railroads, steamship routes, dams, and canals.

Mtg. 02. Spring roller board, dustproof $10.50

F98—World, size 64" x 45", 400 miles to inch.

5. Finch Series—World Map. Physical-Political.

Mtg. 02. Spring roller board, dustproof $10.50

FP98—World, size 64" x 45", 400 miles to inch.

6. Polar Map.

Mtg. 02. Spring roller board, dustproof $11.50

WP96—Polar Aeronautical World, size 64" x 45", 420 miles to inch.

D. RAND McNALLY.

1. Ranally Physical-Political Series. Size 40" x 56". Shades of green, buff, brown, and red indicate altitudes, blue the ocean depths. National boundaries, principal cities, main railroads, canals, steamship routes and Federal power projects in U. S. are indicated.

Mtg. MC. Spring roller, portable steel board, hand mounted, each $ 8.50

	Miles to inch
RB101—United States and Possessions	80
RB100—North America	118
RB200—South America	118
RB400—Asia	174
RB500—Africa	125
RB300—Europe	80
RB801—Eastern Hemisphere	315
RB802—Western Hemisphere	315

2. Special Ranally Physical-Political World. Size 65" x 45". Map shows post World War II boundaries.

Mtg. MC. Spring roller, portable steel board $10.25
RD906—World. 300 miles to inch.

3. Goode Physical Series. Size 66" x 46". Physical with some political data.

Mtg. MC. Spring roller, portable steel board, each $12.00

	Miles to inch
GB400—Eurasia	148
GB500—Africa	123
GB100—North America	97
GB200—South America	97
GB901—World (Mercator Projections, Americas centered)	415
GB904—World (Hemispheres)	410

4. World Map for the Air Age. By Renner. More suitable for grades 7-12. Size 45" x 45". Scale 500 miles to inch. Shows the world spread out in a circle around the North Pole, includes all land areas except the antarctic region. Areas south of the equator are distorted because the meridians do not converge towards the South Pole. The North Pole only seems at the top of the world because for convenience it is shown at the top of maps and globes. Portrays the North Pole in the center of the Northern Hemisphere, which includes ⅔ of the earth land area, 9/10 of its population. Air routes and distances are indicated. New concept of the World created by aviation.

Mtg. MC. Spring roller, steel board. Vellum $ 7.00
Hand mounted 7.75

E. WEBER COSTELLO.

1. New Reality Political-Physical Maps. Edited by Edith Parker. Comparable scale of miles, except for United States and Europe. All man-made features shown in red, equal area projections, emphasizes zone lines, absence of border maps.

Mtg. No. 12. Single, spring roller board, each $10.00

	Miles to inch
United States, 58" x 44"	55
Europe, 58" x 65"	55
Asia, 58" x 65"	110
Africa, 44" x 58"	110
North America, 44" x 58"	110
South America, 44" x 58"	110
Australia & Western Pacific, 44" x 58"	110
World (By Hemispheres), 58" x 44"	440

2. New Semi-Contour Political-Physical Maps. Emphasizes the physical. Equator and zone lines in deep red, vivid color combinations for land surface elevations. World map available with the Mercator and the divided hemisphere projections on same sheet.

Mtg. 128. Spring roller on steel backboard, size 40" x 54", each $ 7.50

	Miles to inch
United States	80
Europe	80
Asia	160
Africa	120
North America	120
South America	120
World Hemisphere and Mercator	660

F. R. T. ROWLAND, Waxhaw, N. C., R. 2.

The New World Series of Political-Physical Maps published by the C. S. Hammond Company, Inc., New York, N. Y.

Price of each map mounted on spring roller, with dustproof cover, either steel or wood back, portable boards $ 7.50

II. *BLACKBOARD AND UNLETTERED MAPS.* Two or three maps required. One reversible of United States and World (or singly, if preferred) and one of North Carolina.

A. THE GEORGE F. CRAM CO., INC.

1. Unlettered color outline maps are printed showing land in attractive color. All water is ocean blue and adjacent continents in neutral shades. Unlettered colored outline maps are finished with markable, washable finish. Maps are hand mounted.

Mtg. ZA. Single maps, each $ 6.00

CUE1-11—United States and World. Size 38" x 44" 8.50
(These two maps are mounted on panel board which is reversible.)

CU1 —United States, size 51" wide.

CU46—North Carolina State, 60" wide
(Plain wood rod top and bottom)

B. DENOYER-GEPPERT.

1. The Cartocraft Slated World Outline Map. Size 64" x 50". Semi-eliptical. Land areas black with bright yellow outline, water in light blue. "Two-Print" feature—the mountains, rivers, parallels and meridians added, but visible at close range only.

Mtg. 10. New CS 9b. Plain roller mtg., each $ 9.25

2. United States and World, reversible. Size 64" x 50". 50 miles to inch.

Mtg. 10. New CS 19b. Wood rods top and bottom $12.25

3. United States and World, reversible. Size 64" x 50".
Mtg. 10. RS 19. Plain wood rod top and bottom 8.25

4. North Carolina State slated map.
Mtg. 10 RS132. Size 64" x 50". Wood rods top and bottom 7.25
RJ. Size 44" x 50". Wood rods, top and bottom 6.00

C. NYSTROM.

1. The Royal Series. United States and World, reversible. Van der Grinten Projection. Size 64" x 46". Meridians and parallels extend through water bodies.
Mtg. 00. RB198. Round Mouldings top and bottom $ 8.00

2. Progressive Series. United States and World, reversible. Size 50" x 44".
Mtg. 00. PB198. Round mouldings top and bottom 6.50

3. State Blackboard Maps. North Carolina, Mercator Projection. 60 inches wide.
Mtg. 00. Round mouldings top and bottom 7.50

D. RAND-McNALLY.
Blackboard Outline Series. Size 66" x 46". United States and World Equal Area, reversible.
Mtg. A. BR906. Wood rod top and bottom, reversible 9.00

E. WEBER COSTELLO.
Standard Series.

1. United States and World, reversible. Size 60" x 50".
Mtg. 10. W26. Plain roller top and bottom $ 9.00

2. North Carolina State Map. Size 60" x 50". With or without county outlines.
Mtg. 10. Rod top and bottom $ 7.00

III. *POLITICAL MAPS OF THE UNITED STATES AND NORTH CAROLINA*

A. THE GEORGE F. CRAM CO., INC.

1. CS1. Superior Series United States and Possessions. Size 51" wide. Markable and washable finish.
Mtg. ZE. Spring roller, steel board $ 9.60

2. CMS1. Modern Series United States and Possessions 51 inches wide.
Mtg. ZE. Spring roller, steel board $ 8.10

3. CST46. Superior series North Carolina State. Size 60" x 40". Markable and washable finish.
Mtg. ZE. Spring roller, steel board $11.70

B. DENOYER-GEPPERT.

1. J1—United States and Possessions. Size 44" x 58", 75 miles to inch. Red boundary lines, special type lettering and symbols to indicate relative population of cities.
Mtg. 12. Spring roller, steel board $ 9.00

2. S1—United States and Possessions (Extra large) 64" x 74", 50 miles to inch.
Mtg. 12. Spring roller, steel board $16.00

3. NC910. North Carolina. Political and Physical maps. Size 44" x 64".
Mtg. 24. Spring roller, steel board, two maps on roller $ 9.00

C. NYSTROM.

1. American Geographers Series.
AG1—United States and Possessions. 52" x 72", 55 miles to inch.
Mtg. 02. Spring roller, dustproof $ 9.00

2. Finch Series—Cultural Map.
F1—United States. 64" x 45", 48 miles to inch.
Mtg. 02. Spring roller, dustproof $10.50

3. Whitbeck-Finch—Simplified Political Map of United States. Visual aids for beginners, insert of map symbols and terms.
WF1—United States. 64" x 54".
Mtg. 02. Spring roller board, dustproof $11.75

4. North Carolina.
US132. 52" x 26". One map on a roller.
Mtg. 02. Spring roller, dustproof $ 8.75

D. RAND-McNALLY.

1. Ranally-Political Series. Special United States.
No. RC101—Size 65" x 45". Scale 50 miles to an inch. Hand mounted.
Mtg. MC. Spring roller, steel board $10.25
2. Ranally-Political Series. United States and Possessions.
No. RA101—Size 40" x 56". Scale 80 miles to inch. Hand mounted.
Mtg. MC. Spring roller, steel board $ 8.50
3. XN32. North Carolina Political. Size 60" x 40". Hand mounted.
Mtg. MC. Spring roller, steel board $11.50

E. WEBER-COSTELLO.

Vito-Graphic Political Map.

1. United States. Size 48" x 38¼". Scale 65 miles to inch.
Mtg. 12. Spring roller on backboard $ 7.50

2. North Carolina State Map. Political. Size 52" x 26".
Mtg. 12. Spring roller on backboard $10.50

F. R. T. ROWLAND, Waxhaw, N. C., R. 2.

The political map of the United States published by C. S. Hammond, Inc., New York.
On spring roller, with dustproof cover, portable board mounting $ 7.50

IV. *UNITED STATES HISTORY.*

Required: A minimum of 10 maps for a seven or eight year curriculum, except the Weber-Costello Series which contains only 9 maps.

A. THE GEORGE F. CRAM COMPANY, INC.

Superior Series. Size 52" x 40". Hand mounted. 34 maps comprise the complete series. The ten maps selected here begin with early explorations and show the logical sequence of historical happenings from then through World War I.

503 Voyages and Discoveries to 1610.
505 Claims of the Nations in North America.
506 Early Grants and Origin of the Thirteen Colonies.
509 The Thirteen Colonies.
510 Western Land Claims and the Ordinance of 1787.
517 Territorial Expansion to 1854.
518 The United States in 1861.
520 The Westward Movement of Population to 1870.
530 Trade Routes and the Pacific Ocean.
531 South America, Commercial and Present Day.

Mtg. ZE —One map on spring roller, steel board $ 6.85

Mtg. ZE2—Two maps on one spring roller, steel board 9.90

B. DENOYER-GEPPERT.

Size 44" x 32". Hand mounted. 24 maps comprise the complete series. The 10 selections here give a logical sequence of historical facts from world explorations, 1492, to island territorial acquisitions of the U. S.

A2 —World Explorations to 1580.
A4 —International Rivalries, 1580 to 1662 and 1750.
A5 —English Colonial Grants.
A7 —Colonial Commerce and Industry.
A10—Westward Movement.
A12—Territorial Acquisition.
A15—Secession.
A16—The Civil War 1861-1865.
A20—Resources and Conservation.
A24—Greater United States.

Mtg. 24. Two on roller. Eact unit $ 8.50

C. NYSTROM.

Sanford-Gordy Series. Size 50" x 38". On vellum cloth. 21 maps complete the historical sequence. The 10 selections give a historical sequence, from European beginnings to Spanish-American War, with possessions after the World War I.

SG1 —Mediterranean World to About 500 B.C.
SG2 —The Roman World. Expansion and Conflict.
SG4 —The Age of Discovery.
SG7 —Early Colonies.
SG8 —Division of North America Among the Nations.
SG10—The Westward Movement.
SG15—The Expansion of the American Nation, 1783-1860.
SG16—The War Between the States.
SG17—Growth of the Great West.
SG20—The United States as a World Power after Spanish-American War. Colonial Possessions and Mandates after World War.

Mtg. 02. Two maps mounted on each roller Eact unit $ 9.00

D. RAND McNALLY AND COMPANY.

The Earle-McKee American History Maps are suitable for seventh grade and above. They have been approved for use in elementary schools above the sixth grade and for junior and senior high school work. Each map shows the historical development in all parts of the United States and is therefore useful in the study of State history.

Mtg. MC. Single, spring roller, portable steel board, hand mounted $ 9.00

Mtg. MR. Multimap set, 10 vellum maps on heavy-duty spring roller, portable board, dustproof cover 62.50

EMW 901—A century of World Exploration—1480-1580.
EMA 101—The Struggle for a continent—1498-1763.
EMB 101—Origin of a Nation—1763-1789.
EMC 101—Early Westward Expansion—1790-1819.
EMD 101—A Growing Nation—1820-1848.
EME 101—Expansion and Sectional Conflict—1848-1860.
EMF 101—Armed Conflict and Reconstruction—1861-1877.
EMG 101—Emergence of Modern United States—1787-1912.
EMH 101—United States Today—The Motor Age.
EMW 906—United States in a Modern World.

E. WEBER-COSTELLO.

1. Tryon Illustrated Maps. A series of 9 maps. Give all historical sequence from early explorations to the time of acquisition of outlying territories and possessions. Each map shows present continental United States, except as it appeared at different periods. This series is not recommended for the high school.

Mtg. 12. Single spring roller board $ 7.50

T1A—Routes of certain travelers, Traders, Discoverers, and Explorers, 1270 to 1700 A.D.
T2A—Present Continental United States, Except Alaska, as it appeared in 1609.
T3A—Present Continental United States, Except Alaska, as it appeared in 1754.
T4A—Present Continental United States, Except Alaska, as it appeared in 1790.
T5A—Present Continental United States, Except Alaska, as it appeared in 1829.
T6A—Present Continental United States, Except Alaska, as it appeared in 1861.
T7A—Present Continental United States, Except Alaska, as it appeared in 1893.
T8A—Present Continental United States, Except Alaska, as it appears today.
T9A—The United States and its outlying territories and possessions.

V. *GLOBES. 16 INCH PHYSICAL-POLITICAL, AND RELIEF.*

A. THE GEORGE F. CRAM CO., INC.
Physical-Political Globe.

B. DENOYER-GEPPERT.
Cartocraft New Physical-Political.

C. NYSTROM.
Parkins Physical-Political.

D. RAND McNALLY.
Ranally Physical-Political, post war boundaries.

E. WEBER-COSTELLO.
New Reality Political-Physical.

F. R. T. ROWLAND, Waxhaw, N. C., R. 2.
The Physical Political 16 in. globe No. 1610 published by C. S. Hammond, Inc.

Recommended But Not Required

1. *Other globes.* The five companies listed under A, B, C, D, E, above can supply political, slated, project and library globes. The Project Globe and Supply Co., Rochester, N. Y. supplies a project globe.

2. *The Comprehensive Series Social Studies Maps of the United States.* Modern School Supply Company, Goshen, Ind.

3. *Desk Outline Maps.* (Smaller sizes not recommended.)

George F. Cram Co., Inc.	Sizes 8½ x 11
Denoyer-Geppert	" 11 x 16 or 16 x 22
Nystrom	" 10½ x 15
Rand-McNally	" 11 x 14½
Weber-Costello	" 11 x 16

4. *Paper Wall Outline Maps.*

Denoyer-Geppert	Sizes 48 x 36
Denoyer-Geppert	" 64 x 44
Nystrom	" 42 x 32
Rand-McNally	" 40 x 30

5. *Wall Whiteboard Outline Maps.*
(For use with crayon, show card colors, India ink, cold water paints. Can be wiped off with dry or damp cloth as required. Special marking crayons needed.)
Geo. F. Cram Co., Inc. 38" x 44". Reverse-panel, single panel (2 maps).
Denoyer-Geppert, 44" x 32". Single panels (2 maps).
Rand-McNally, 40" x 30". Four reversible panels, 2 maps to a panel.
Nystrom, 42" x 32". One panel (2 maps).

6. *North Carolina Social Science Maps.*

A. R. Newsome, Editor. Denoyer-Geppert.

7. *Life and Latitude Charts for the Social Studies.* Weber-Costello. Satisfactory for use in grades 7-12.

8. *Map of Standard Geographical Terms.* Denoyer-Geppert.

THE SCHOOL PLANT

Legal Requirements for Erection or Repair of Schoolhouses.

"The building of all new schoolhouses and the repairing of all old schoolhouses over which the county board of education has jurisdiction shall be under the control and direction of and by contract with the county board of education, provided, however, that in the building of all new schoolhouses, and the repairing of all old schoolhouses which may be located in a city administrative unit, the building of such new schoolhouses and the repairing of such old schoolhouses shall be under the control and direction of and by contract with the board of education or the board of trustees having jurisdiction over said administrative unit. But the board shall not be authorized to invest any money in any new house that is not built in accordance with plans approved by the State superintendent, nor for more money than is available for its erection. All contracts for buildings shall be in writing, and all buildings shall be inspected, received, and approved by the county superintendent of public instruction, or by the superintendent of schools where such school buildings are located in a city administrative unit, before full payment is made therefor: Provided, this section shall not prohibit county boards of education and boards of trustees from having the janitor or any other regular employee to repair the buildings."*

The School Plant Should Include Suitable Space for Instructional and Extra-Curricular Activities.

1. A site ample in size: (a) for original building and future extensions, (b) for the proper setting of the building away from noise, dust and accident hazards of highways and streets, (c) for adequate and safe play space. (See Playground, page 48).
2. Clean, safe and adequate building or buildings.
3. Attractive classrooms, adequate in number and size. (See Classroom, p. 40).
4. An auditorium—recommended, but not required.
5. Principal's office—required.
6. A library room.

*Public School Laws of North Carolina, 1943 s. 115-84. Erection or repair of schoolhouses. p. 23.

(a) Recommended for all elementary schools. Required of accredited elementary schools rated Acc. or I. (See page 23).

(b) Required for high schools. (See page 56 for detailed requirements.)

7. A lunchroom. Recommended, but not required. (See Standards, p. 12).
8. Gymnasium. Recommended for elementary and high schools. (See p. 49 for suggested standards).
9. Bookroom for storing books not in current use and materials of instruction. Recommended, but not required.
10. Clinic room for health examination, isolation and first aid. Recommended.
11. Teachers' rest room. Recommended.
12. Adequate toilets. (See p. 43) for requirements).

The School Plant Should Provide Adequate Facilities for Healthful School Living.

1. Adequate facilities for heat and ventilation. (See Location of Windows, p. 40).
2. Adequate natural and artificial light. (See p. 41 for requirements.)
3. Adequate and sanitary drinking fountains. (See p. 44).
4. Adequate and safe water supply. (See p. 45).
5. Adequate lavatories. (See p. 44).
6. Adequate toilet facilities. (See requirements, p. 43).
7. Sewage disposal facilities as recommended by State Board of Health. (See requirements, page 47).
8. Adequate garbage disposal facilities. (See p. 46).

The School Plant Should Include Other Facilities as Needed.

1. Blackboards. (See p. 41).
2. Bulletin boards. (See p. 41).
3. Supply and display cabinets.
4. Bookcases.
5. Filing cabinets.
6. Cloak rooms. (See p. 42).
7. Clocks and bells.
8. Temperature controls.

9. Electric outlets for lighting, picture projectors, vacuum cleaners, and radio connections.
10. Other special features as the school organization may require.

Requirements for Accreditation.

1. New School Buildings.
 a. Must be built in accordance with plans approved by the State Superintendent of Public Instruction as provided in the law quoted on page 37.
 b. Must measure up to the Standards for Accreditation as set forth on page 39ff.
2. Old School Buildings.
 a. All buildings must be kept in a creditable state of repair.
 b. Buildings and grounds must be kept clean, attractive and safe from hazards.
 c. Schools must substantially meet the detailed standards set forth on page 39ff. Schools with inadequacies that affect the health and safety of children will not be accredited, and if already accredited will lose accreditation status if conditions are not corrected.

Standards for Accreditation.

LOCATION

Schools should be located in the best available site in respect to adequacy in size, accessibility, population trends, water supply, sewage disposal, drainage and playground. In locating school sites avoid proximity to highways, railroads, gas plants, factories and other sources of noise, odors, and accident hazards.

SIZE

A minimum of ten acres is recommended for a seven teacher elementary school, for a small high school, or a small union school. Large schools need more than ten acres. The North Carolina law recognizes ten acres as a desirable minimum size for a school site, and permits the acquisition of a site this size by condemnation proceedings. Separate playgrounds should be provided for elementary and high school children and, therefore, whenever possible, a site larger than ten acres should be provided for a union school. (See s. 115-85, Public School Laws of North Carolina.)

CLASSROOMS

Number. The number of classrooms must be sufficient to carry on an effective instructional program.

Dimensions. (1) The width of the classroom, unilaterally lighted, should not be more than twice its height, 21 to 22 feet, being the usual and desirable widths. Where possible, first grade rooms, and even second and third grade rooms should be larger. (2) Under normal conditions the heighth of the classroom should be 12 feet. (3) The length of a classroom should be determined by the desired seating capacity of the room, but classrooms less than 35 feet in length can rarely be justified. (4) A minimum of six feet should be provided in the front of the classroom between the first seats and the front wall. (5) In the rear of the classroom there should be provided approximately 3 feet between the last seats and the rear wall.

Seating Capacity. The normal seating capacity of elementary classrooms should be determined by allowing 1 square foot of the total floor area for each pupil. The size of the classroom needed for high schools depends upon the type of work and the size of the class.

Aisles. For safety and convenience in passing up and down classrooms, aisles next to walls should be at least 30 inches wide, and intermediate aisles at least 18 inches wide. It is recommended that movable tables or desks be used whenever possible. In the elementary grades especially, individual, movable tables and chairs are recommended.

Doors. (1) Doors to classrooms should be at least 3 feet by 7 feet by 1 ¾ inches. A clear wire-glass pane in the upper part of the door is a desirable feature. For natural light in the corridors, the remaining upper part of the door may be of translucent panelled glass. (3) For the purpose of cross ventilation, transoms should be placed over all classroom doors.

Location of Windows. It is recommended: (1) That all classrooms be unilaterally lighted, (2) that windows be placed on the long axis of the rooms, and that the orientation be east and west rather than north and south, (3) that the top of the upper sash of windows be within six inches or less of the ceiling, (4) that the window area be one-fifth or more of the floor area, (5) that for the purpose of cross ventilation high breeze windows be provided

in the wall opposite the outside windows, and (6) that plate glass air deflectors be provided in all windows except where deflectors are a part of the window sash.

Artificial Illumination. Where artificial illumination is required, the lighting units, properly spaced, should be hung so as to insure adequate light at desks of pupils without objectionable glare. Fifteen foot candles are recommended by the Illuminating Engineering Society and the American Institute of Architects. In a classroom 21 feet by 35 feet, with a ceiling height of 12 feet, the following layout is recommended: 6 lamps of 300 watts each, hung about 30 inches between the top of the bowl and the ceiling. The lamps should be placed in two rows of three each, approximately 6 feet from the front wall, 4 feet from the rear wall and 5 feet from each of the side walls. Two circuits with lights on the row nearest the windows on one circuit and those fartherest from the windows on the other circuit should be used so that each row of lights can be operated independently of the other. Oftentimes the row farthest from the windows will be sufficient to supplement the day light. On dark, cloudy days it will be necessary to use both rows of lights.

Blackboards. (1) Approximately 20 running feet of blackboard should be provided for each classroom; (2) blackboards need not be more than 42 inches in width, 36 inches being generally satisfactory; and (3) the height of the chalk trough above the floor should be for:

1st and 2nd grades, 24 to 28 inches; 3rd and 4th grades, 26 to 30 inches;

5th and 6th grades, 28 to 32 inches; 7th and 8th grades, 30 to 36 inches.

Bulletin Boards. A minimum of 12 to 20 linear feet of bulletin board, 3 to 4 feet in width, should be provided.

Color of Walls and Ceilings. (1) All walls should be of a color with a light reflecting factor of approximately 50%. Light buff, ivory tan, or delicate tints are recommended. Wainscotings and dadoes may be of darker colors. (2) In all cases, the ceiling should be ivory, white or light cream with a light reflecting factor of not less than 60%.* (3) Avoid glossy finishes.

*The Munsell Chart gives the reflective power of each color. Munsell Company, 110 E. Franklin St., Baltimore, Md.

Window Shades. Translucent shades, the color of which harmonizes with the classroom colors, should be used and so installed that the entire window, when desired, be unshaded, and that any portion of the window may be shaded without shading other portions.

Cloakrooms, Wardrobes and Lockers. It is recommended that each classroom provide suitable space for the children's extra garments in one of three ways: (1) Ventilated cloakrooms approximately 5 feet wide, with an outside window having a glass area of not less than one square foot to every 10 square feet of floor area; also with two hook strips placed respectively 3½ and 5 feet above the floor, each to be equipped with a sufficient number of hooks staggered 18 inches apart on each strip. A pole equipped with hangars may be substituted for strips. Coatrooms as described above with a classroom wall in the form of a stationary screen are acceptable when the area behind the screen is properly ventilated. (2) Ventilated wardrobes easy of access and convenient for use, opening preferably into the classrooms. (3) Ventilated lockers in corridors, providing ample space for extra garments and placed so as to be convenient for use. Separate space should be provided for teachers

Shelving. Each room should be supplied with adequate shelving for library books. See *Library* under Requirements for Accredited Elementary Schools, page 23). Each room should have a cabinet or sufficient shelving to take care of instructional supplies, including texts in use.

CORRIDORS

(1) The minimum clear passageway of the main corridor or corridors of any school building containing four classrooms or more should be 8½ feet. (2) While the minimum clear passageway of secondary corridors varies with the length of such corridors leading to them, such secondary corridors should be approximately five feet in width. (3) Corridors and passageways should be well lighted and ventilated. Outside windows are always desirable. Transoms and half glass doors are helpful. Artificial illumination to the amount of 3 foot candles is recommended. (4) In new constructions no projections beyond the face of the corridor walls should be in excess of 8 inches. (5) No radiators, drinking fountains, wash-basins, or other equipment should be placed in corridor walls unless the latter be recessed to receive them.

TOILETS

Location, Size and Construction. (1) Adequate toilet facilities should be provided on each floor, for each sex. (2) The toilet rooms for the two sexes should be located in different ends of building where practicable. They should be easily accessible from playgrounds and from classrooms. *Do not locate toilets in basements.* (3) The minimum width should be 10 to 12 feet and the length sufficient to accommodate the number of fixtures needed. (4) The rooms should be so arranged that pupils have space to pass without crowding. Lavatories should be accessible and a mirror provided, but this should not be over the lavatories. (5) Toilets should be so located and screened that the interior is not visible from corridors. Stalls with walls 4½ ft. high should be provided for toilets. Doors for the stalls are usually provided in girls' toilets, but not for boys. Toilet floors and walls should be finished in tile, terrazzo or equally impervious materials permitting washing down and all internal corners should be coved. (6) Floors should be sloped ¼ inch per foot to floor drains. (7) The walls should be constructed of tile or glazed brick 6 or 7 feet high or at least the walls should be finished with a rich coat of Portland cement plaster or equal to permit easy cleaning. (8) Ample sunlight is the best disinfectant for toilet rooms. As many windows as possible placed at least 6 feet from the floor should be provided. (9) All toilet rooms should be thoroughly screened. (10) Artificial light outlets should be provided in such numbers and so located as to supply adequate light in all parts of the toilet, including the stalls.

Plumbing. Water closet bowls, urinals and wash basins or lavatories should be of vitreous china. The water closet bowls should be of the extended-lip or elongated-rim type. The seats should be impervious material, with open fronts. The number of water closets in elementary schools should be figured at one for 15 to 20 girls and one for each 25 to 30 boys. The ratio of water closets to the number of pupils decreases as the size of the school increases. (2) For primary children height of the toilet seat should not be over 10 inches; for grammar grade children 11 inches; for high school children 13 to 14 inches. The "standard" height of 16 inches for toilet seats is too high for 75% of the children. (3) Separate toilets, adjacent to the classrooms, are desirable features for primary units. (4) The water closet should be of a type that will wash down from each flushing. The recommended type for new construction or for replacement is the flush valve type. (5)

There should be one urinal for each 20 boys in the smaller schools. The ratio decreases as the size of the school increases. (6) The urinal should be of the flush valve type that is easily flushed and that can be kept clean.

Lavatories. (1) One lavatory should be provided for every two toilet fixtures. (2) A lavatory should be in every primary classroom and is desirable for all classrooms. (3) Lavatories for elementary grades should not be over 25 inches in height. In high schools 27 to 30 inches is an acceptable height. (4) A soap and towel dispenser should be provided in connection with the wash basin. (5) Hose connections and slip sinks should be provided for the janitor's use.

Showers in Elementary School Toilets. In elementary schools in which there is no gymnasium with showers, it is recommended that a shower be placed in each toilet.

DRINKING FOUNTAINS

Location. In all new construction the indoor fountains installed in corridors should be in recessed alcoves, not less than two feet six inches wide and not less than six feet high, so that drinking fountains do not project beyond the surface of the main wall. Do not put drinking fountains in toilet rooms. Drinking fountains should be located:

1. One in each primary classroom.
2. In the corridors and near playgrounds for the upper grades.
3. In high schools it is desirable to place drinking fountains in the gymnasium dressing rooms.
4. In all lunch rooms.

Type. Fountains, bowls and bubblers must conform to the following standards:

1. Drinking fountains should be of impervious material, such as china, procelain, enamelled cast iron, or other metals or stoneware.
2. The water-supply type should have an adjustable valve with a loose key or an automatic valve which will permit regulation of the rate of flow of water to the fountain in order that the valve manipulated by the drinker will merely turn the water on or off.

3. The jet of water should issue from a nozzle of nonoxidizing, impervious material set at such an angle from the vertical that the water can neither fall back nor be forced into the point of discharge. The nozzle and every opening in the pipe or conductor leading to the nozzle should be above the edge of the bowl, so that the nozzle or opening will not be flooded if the drain from the bowl becomes clogged. The nozzle should be protected by nonoxidizing guards to prevent the mouth or nose of the drinker from coming into contact with it. The jet of water should not touch the guard.
4. The bowl should be large enough to prevent unnecessary splashing, and free from corners difficult to clean.
5. The drain from the fountain when connected with the sewer should be properly trapped. The waste opening and pipe should be large enough to carry off the water immediately. The opening should have a strainer.

Height of Fountains. The recommended height of the drinking fountains are:

1. For the first three grades, not over 25 inches from the floor.
2. For grades 4 to 7, not over 30 inches from the floor.
3. For grades 8 and up, 30 to 36 inches from the floor.

Number of Fountains. One fountain should be provided for every 25-40 persons to be served. In schools of 15 or more teachers, one fountain for every 50 persons may be adequate. The exact number needed depends upon the number of persons to be served.

SCHOOL WATER SUPPLY

An adequate and safe water supply is considered essential for all schools. Accredited schools are required to have a water supply provided either from an approved municipal water supply or from a supply approved by the State Board of Health.

The water supply should be located at least 100 feet from a septic tank, privies, hog pens, barn lots, sewage lines, chicken houses, etc. The location of a well is an important factor in assuring a wholesome water supply. A great deal of study should be given to the selection of a site on which to locate it and the advice and opinions of the health authorities should be obtained before a new well is installed.

All wells should be carefuly protected from surface drainage and contamination from the top; that is, the tops of all wells should be enclosed water tight so as to thoroughly exclude all surface drainage, wastes, and other pollution which would contaminate the supply.

Open wells and springs practically always show pollution and therefore should not be used under any circumstances for a school water supply.

It is required of accredited schools, and recommended for all others, that school wells be equipped to furnish water under pressure by the use of electric or other mechanical pumping equipment.

Consultation and advice can be secured from the State Board of Health on all technical points to be considered both in the installation of new wells and the reconditioning of existing well water supplies.

DISPOSAL OF GARBAGE AND RUBBISH

The disposal of garbage and refuse, even in the case of rural schools, need not be a difficult problem. A certain amount of intelligent preparation and routine supervision, however are necessary.

All tin cans, waste paper, and wet garbage must be disposed of in a satisfactory manner, and the premises must be maintained in a neat, clean, and orderly manner. Edible garbage, including all peelings, vegetable scraps, etc., must be collected and stored in tighty covered standard galvanized garbage cans, and removed daily. When cans are emptied, they must be thoroughly washed. All trash, dry paper, cartons, and similar combustible materials may be more easily disposed of by burning. For this purpose a large elevated oil drum provided with grate rods, a piece of heavy hog fence wire reinforced by metal rods driven into the ground and shaped to about 3 feet in diameter, or a small park type stone or brick incinerator properly placed, will provide excellent burning facilities. Tin cans, bottles, jars, and other non-combustible rubbish, which accumulate rapidly and present a difficult disposal problem, may be handled satisfactorily in one of the following ways:

1. A nearby ravine may be used, if the material is covered immediately with at least 12 inches of fresh dirt. A heavy wooden maul should be provided for the purpose of flatten-

ing all cans and breaking all bottles, etc., and for thoroughly tamping the dirt on top of the material. On a day by day basis little time would be required for doing an effective job of disposing of these non-combustible items.

2. A ditch approximately 18 inches to 24 inches wide and 46 inches deep may be dug at some convenient location near the schoolground premises. As the material is dumped and flattened with the maul, it is similarily covered at least 12 inches and thoroughly tamped to prevent washing or molestation by animals.

The dumping of tin cans, etc., in adjacent fields, ditches, and ravines, or piling them here and there on the schoolground premises should be prohibited. As pointed out in the beginning, these disposal problems may be easily handled, if proper routines are set up and followed each day.

SEWAGE DISPOSAL

The school sanitary laws, as written several years ago, stipulated that every school shall have two sanitary privies, one for boys and one for girls. These laws further state that the privies shall be *sufficiently adequate to protect the sanitation and health of the children and the community.*

Many years of experience by health and school officials in trying to provide and maintain proper sewage disposal facilities for schools has demonstrated that in most cases, with the exception of small one of two teacher schools, outdoor pit privies are not adequate, are not properly maintained, and are potential, if not actual, health hazards to both the students and the community.

It is strongly recommended, and required for accredited schools, that water-carried disposal facilities be installed. This means that an adequate number of water closets, urinals, and lavatories of proper design and construction be installed and connected to either the municipal sewerage system, or to a properly designed and constructed sewage treatment plant approved by the State Board of Health.

The State Board of Health has prepared standard plans for school sewage treatment plants and bulletins concerning sanitary privies. Upon request an engineer or sanitarian will visit the school sites with the proper school officials, and advise them regarding the most suitable type of installations for each particular school. Dimensioned plans will be supplied, but it is strongly recommended

that an engineer or an architect be employed to stake out and supervise installation. This part of the project is as important as selecting the proper site and type of plant to be installed.

Once installed, regular maintenance of the facilities is necessary for the protection of health, to prevent objectionable odors, and to insure a long period of uninterrupted service.

Upon request the State Board of Health will furnish engineering notes concerning location, installation, and operation.

Play Areas, Gymnasium, Dressing and Shower Facilities

In order to carry on a program of physical and health education that will meet the social and physical needs of children, adequate play areas outside and inside are needed. Space needed depends, to a large extent, upon the size of the school and the type of program plannd.

THE PLAYGROUND

The play areas for elementary schools, high schools, and for consolidated schools should be large enough to provide ample space for the largest number of children who will be assigned to the play areas at any one time.

All play areas should have a smooth surface, turfed if possible, and should be well drained. In the interest of safety, the playing surface and all equipment (indoor and outdoor) should be inspected carefully and frequently. The playing surface should be kept free from obstacles that are dangerous. Any defects in the play areas that are found should be reported to the proper authorities for correction. The safety of pupils should always be a chief concern to the physical education teacher and to the administrator.

Elementary Schools. A minimum of ten acres is recommended for the school site for a standard elementary school. Large elementary schools need more space. Separate play areas should be provided for the smaller children.

Union Schools. These schools need sufficient space so that the elementary and high school children do not have to use the same areas. A minimum of 15 acres is recommended. Exact needs, of course, vary with the size of the school.

High Schools. The amount of space needed depends upon the number of students enrolled and the type of program planned. Ample space should be provided so that a broad intramural program can be carried on after school hours for both boys and girls. A minimum of ten acres is recommended for the smaller schools.

COMPARATIVE AREAS NEEDED FOR VARIOUS SPORTS

(Ranked in ascending order of space required per player.) *

Game	Area per player (Sq. ft.)	No. of p*ayers	Minimum Size	Area (Sq. ft.)
1. Volleyball	150	12	80′ x 60′	1,800
2. Handball (Single wall)	170	4	20′ x 34′	680
3. Basketball (boys)	210	10	35′ x 60′	2,100
4. Badminton	220	4	20′ x 44′	880
5. Basketball (girls)	204	12	35′ x 70′	2,450
6. Soft Ball (plgd.)	451	20	95′ x 95′	9,025
7. Soccer (girls)	1,309	22	120′ x 240′	28,800
8. Tennis	1,500	4	50′ x 120′	6,000
9. Field Hockey	1,564	22	135′ x 255′	34,425
10. Soccer (boys)	2,250	22	165′ x 300′	49,500
11. Football	2q618	22	160′ x 360′	57,600
12. Baseball (hard)	5,000	18	300′ x 300′	90,000

*The Physical Education Curricula, (A National Program.) William Ralph LaPorte. The University of Southern California Press. Los Angeles, 1938.

NOTE: It is, of course understood that a particular area may be used for several activities. For example, the same space could be used for soft ball in the spring and football or soccer in the fall.

GYMNASIUM

Elementary Schools. A gymnasium or play room is desirable for the elementary school. If neither is available, other areas about the school should be utilized. A modified program can be carried on in the regular classroom. The stage of the auditorium may be used for tumbling, pyramid building, and rhythmical activities.

There are many activities that can be carried on effectively indoors, but it is important to recognize that much of the program can and should be conducted out of doors, particularly for the upper elementary grades and the high school. In suitable weather primary children especially should be given opportunity to play out of doors in the sunshine and fresh air.

In union schools it is suggested that the elementary grades, as well as the high school grades, have access to the gymnasium for physical education classes.

High Schools. The size of the gymnasium needed depends upon the enrollment of the school. The following standards are suggested:

Students Enrolled	Width	Length	Heighth*
0–150	46′	80′	18′
150–500	50′	85′	20′
501–900	60′	90′	22′
901–1000	70′	100′	22′

*Meaning height of side wall to lowest beam.

1000-over-(It is recommended that two gymnasiums be provided for a school with greater enrollment than 1000)

It is recommended that when only one gymnasium is available, the boys and girls alternate in the use of the gymnasium and playground.

Seating for Spectators. Arrangements for seating for spectators should be such that the play or activity space in the gymnasium is not seriously affected. Seats should be far enough back, if they are built in, to allow cross-court play in basketball and volleyball. If the gymnasium is not wide enough for this, the knock-down or folding type of seats are recommended. The gymnasium should have adequate light, ventilation and heat.

DRESSING AND SHOWER FACILITIES

Locker rooms, lockers and adequate dressing space for all classes in physical education in the junior and senior high school as well as for athletic teams, is considered necessary to safeguard personal property and to provide opportunities for the development of habits of cleanliness.

Locker Room. The locker room should be well ventilated and large enough to provide lockers for those who participate in athletics, and lockers for physical education classes. The number of lockers should be sufficient to take care of the largest number of pupils assigned to physical education at any one time. The lockers should be used only while a student is on class and should be vacated at the end of the class, and thus made available for students in the next class. About 50 half tier lockers are usually sufficient for this purpose. The floor should have drains as needed, and the material for the floor should be of tile, terrazzo, or water-proof cement.

Showers. A minimum of eight to twelve showers are needed for boys and ten to fourteen for girls in order to provide adequate showers for use by physical education classes that have thirty to forty students in the class. Fewer showers than the above usually results in too much loss of time when used by physical education classes.

Gang showers are usually provided for boys. In some schools the cluster type shower is provided for girls—a shower with four dressing booths built around each shower.

Where the gang shower is used the shower room should be near windows to allow the steam from the showers to escape.

Shower room floors and walls should be made of some kind of impervious material. The shower room should be adequately drained. Tile is the best material for shower floors. The wall should be tile or some other type of impervious material.

Sufficient hot water should be provided for physical education classes, for after-school athletics, for use by all students who may have the oportunity to use the showers, and for lavatories in the entire school.

Liquid soap containers (the central tank with spigots for every two showers) has been found the most satisfactory way of providing soap.

It is strongly recommended that every student be provided with a *clean towel* each time he participates in physical education or athletics. Many schools provide the towels and charge a small fee to pay for laundry service.

Basket System. Some arrangement should be provided whereby every student will have a place in the locker room to leave his gym suit, and shoes when not in use. The most economical way, from the standpoint of space, is to use a basket system. The following has been found satisfactory in several North Carolina schools:

1. Provide special basket rooms in both boys' and girls' locker rooms. Such rooms may be constructed of heavy galvanized wire, large enough to hold baskets for all physical education pupils. Each room should have a window with shelf space and two doors —an entrance and an exit. Both doors and the window should have locks.

2. Combination locks should be used on the baskets if the self-service system is used. It takes more time to have a care-taker serve out the baskets to the pupils.

3. Baskets should be of wire, minimum size 8″ x 12″ and should have metal corners. The basket room should be placed near windows to provide ventilation for sweaty clothes.

Toilets. A minimum of three urinals and two commodes for boys and four commodes for girls should be provided in the locker room or in an adjoining room.

Lavatory. One or more lavatories of the approved type should be placed in each locker room.

Drinking Fountain. A drinking fountain is suggested for each locker room.

CLASSIFICATION OF ACCREDITED ELEMENTARY SCHOOLS

Schools are rated at the close of the session after all reports have been received and examined. These ratings are published in the *Educational Directory* the following school year. This means that ratings in any Directory are those as of the close of schools for the previous session.

New schools will be recommended for accreditation only after inspection by a member of the staff of the Division of Instructional Service. All requirements must be met by January 1 of the year in which the school is accredited.

Schools which meet the minimum requirements for accreditation will be designated in the Directory by the symbol "Acc"; recognized schools by the symbol "R".

A special rating designated by the symbol "I" will be given to those schools which have gone beyond the minimum requirements. To secure the "I" rating a school must show superiority by attaining seven or more of the following over and above the minimum standards. (See p. 11):

1. Seventy-five per cent or more of the teachers hold class A certificates either Primary or Grammar Grade.
2. The average pupil load has been decreased by employment of one or more properly certified additional teachers from local funds.
3. A professional study program for the school faculty has been provided (exclusive of county or city meetings) with at last nine meetings and a written report of work done, with 100% participation.
4. The school has an active parent-teacher association with at least 50% of the homes represented.
5. The school has an approved lunchroom program.
6. The school has a central library with a seating capacity equal to that of the largest classroom.
7. The library book collection exceeds five books per pupil.
8. The number of approved supplementary readers exceeds 140 per grade.
9. Provision has been made for an audio-visual program as evidenced by at least three of the following:

a. A projector for still pictures (film strip, glass slide or opaque).
b. An annual budget of not less than $60.00 per year for rental of films, slides and other acceptable auditory and visual aids.
c. A 16 mm. sound motion picture projector.
d. A radio for classroom use.

10. The school has an average daily attendance for the year of 94% or more of the average daily membership.

11. The school has added to the minimum equipment for teaching music appreciation at least one phonograph and 25 records.

B. THE HIGH SCHOOL

Under the authority of the law which makes it the duty of the State Superintendent of Public Instruction to prescribe the curriculum and set up standards for high schools, the following requirements must be met before a school may be accredited.

1. At least three full-time teachers including the principal all properly certified.

2. A minimum term of 180 days, exclusive of holidays.

3. Class periods of at least forty-five minutes in the clear; the hour period is strongly recommended.

4. Sixteen units required for graduation. (See p. 55).

5. The minimum average daily attendance prescribed by law or regulation of the State Board of Education.

6. A four-year course of study beyond the eighth grade.

7. Equipment as follows:
 a. Library equipment as specified on p. 56.
 b. Maps and charts as indicated on p. 63.
 c. Laboratory facilities for teaching the sciences: General Science, Biology, Chemistry, and Physics.
 d. Furniture and equipment for all special rooms, including the office, library, auditorium, laboratories, and shops.

8. An adequate, sanitary building with provision for classrooms, library, laboratories, office and auditorium.

TEACHERS

Every teacher employed in a standard or accredited high school must hold a high school teacher's certificate issued by the State Board of Education through the Division of Professional Service. The principal of an accredited high school or union school must hold a principal's certificate. This requirement holds for all classes of schools, public and private, white and Negro, urban and rural.

High school certificates are based on graduation from a standard college with specific requirements concerning professional and academic credits. Since July 1, 1941, provision has been made for the recognition of graduate work by the issuance of graduate secondary certificate which makes possible additional salary increments. Since July 1, 1943, provision has been made for an optional principal's certificate, one requirement for which is a master's degree.

For detailed information relative to certificates, write the Division of Professional Service, State Department of Public Instruction, Raleigh, N. C.

LENGTH OF TERM

The length of term in any accredited high school shall be 180 days.

LENGTH OF CLASS PERIODS

The hour period is recommended for most schools. When the daily schedule is arranged on this basis there should be six such periods in the school day.

There must be a minimum period of at least forty-five minutes in the clear. In arranging a daily schedule provision should be made for three to five minutes between class periods to allow for time spent in changing classes. When the hour period is used, it may include the time for changing classes.

If the school is organized on the hour basis science courses may be given five periods per week. If a shorter period is used seven periods per week should be devoted to each scienc.

Some schools are interested in making experiments with a period longer than one hour. Whenever an experiment of this sort is carefully planned, permission may be obtained for increasing the length of the period.

It is important that the total length of the day be sufficient to carry on an adequate program. On the present basis for allotment

of teachers it is difficult to carry on a proper school program in a day that is shorter than six hours.

NUMBER OF UNITS REQUIRED FOR GRADUATION

At least sixteen standard units are required for graduation. A unit is defined as follows: A unit is the credit allowed for the satisfactory completion of a course pursued for thirty-six weeks or more per year with five class periods per week.

The requirements for graduation differ somewhat for the various curricula. A definite statement of graduation requirements will be found in the discussion of each curriculum in the section on Suggested Curricula, Organization, and Schedules. (Further suggestions will be found on p. 129 of this Handbook.)

Under the twelve year public school program, the requirements for graduation are:

Subject	*Units*
English	4
Mathematics	1
Social Studies	2
Science	2
Physical Education and Health	1
Electives	6
Total	16

English—Required in each year of high school.

Mathematics—Required in the ninth year, either course A, General Mathematics or course B, Algebra.

Social Studies—American History and one additional unit.

Science—Biology and one additional unit of science, but a unit of Geography or second or third year Home Economics may be substituted for the second unit of science.

Physical Education and Health—One unit in Physical Education and Health is required in the ninth grade. Additional work is recommended for other high school years.

Electives—The six elective units are provided for in terms of the possible offerings in a given school. All electives are to be selected upon the advice of principals and advisers and with the consent of parents. This makes a program of educational guidance imperative in every school.

The program of three or four teacher schools will be completed by courses in English, Mathematics, Social Studies, Science, Physical Education and Health, and one foreign language. It is possible to offer Home Economics also in four teacher schools. However, vocational Home Economics and Agriculture will not be given in high schools with an enrollment of less than 100 pupils.

In schools with more than four teachers the following subjects may be added: Agriculture, Home Economics, Industrial Arts, Business Education, other vocational courses, Art, Music, and other foreign languages. More than one foreign language should not be offered ordinarily in schools with fewer than five State-allotted teachers. Business Education should not be offered ordinarily in schools with fewer than six State-allotted teachers.

AVERAGE DAILY ATTENDANCE

New schools which do not make a sufficient average daily attendance to secure three State-allotted high school teachers will not be considered for accredited rating. The 1939 School Machinery Act, as amended, makes an average daily attendance of 60 the minimum for the establishment of a high school.

COURSE OF STUDY

A four year course of study must be provided. This means the ninth, tenth, eleventh, and twelfth grades. (See Publication No. 235, A Suggested Twelve Year Program for the North Carolina Public Schools, 1942.) There is nothing to prevent the organization of a high school on the junior-senior plan. When an effort is made to organize on this basis, it is suggested that the seventh, eighth and ninth grades be organized as the junior high school and the tenth, eleventh, and twelfth grades as the senior high school. In small high schools with three or four teachers and an average daily attendance of sixty to eighty pupils, it is not advisable to attempt to organize on the junior-senior plan. (For suggestions about organization, see p. 131).

LIBRARY

A. Library room.

1. Size of classroom as minimum.
2. Floor space to seat 10 per cent of the student body up to 1,000 students at tables with chairs. A minimum of 36 chairs should be provided.

3. Floor space of approximately 25 sq. ft. per reader cares for tables, chairs, aisles, and furniture.
4. Room centrally located, well heated, well ventilated, and well lighted.
5. Librarian's workroom or conference room, preferably with running water and electrical outlets. The workroom may be provided by cutting off one corner of the room with low shelving. This space is needed for routine work, mending, magazine storage, and the like. It should contain shelves and cupboard space.
6. Walls and ceiling should be light colored. Suitable colors for walls are pale green, pale green-blue, yellow, and peach. Ceiling should be off white.
7. Floor covering or chair slides (or both) should be provided.
8. Library open entire school day under supervision.

B. Furniture and equipment.

1. Shelving built according to specifications, allowing shelf space for 5-15 volumes per pupil, estimating 8 books per linear foot.
 a. Shelving should not be over 7 ft. high.
 b. Each shelf 36 in. long with solid upright between sections.
 c. Shelves should be 8 in. in depth.
 d. Shelves and uprights should be made of 7/8 in. or 13/16 in. boards.
 e. Metal strips and brackets provide adjustable shelves. If stationary shelving is built, 10 in. in the clear should be provided between shelves. One section should have 12-14 in. space between shelves for large volumes, such as encyclopedias.
 f. All projections along uprights, tops, or sides should be avoided.
 g. A 2 in. cornice and a 6-8 in. base are satisfactory.
 h. Shelves should have a veneer or composition board back, or should be fastened to the wall to assure firmness.
2. Tables. Standard size (3 ft. by 5 ft. to seat 6, or 3 ft. by 7 ft. to seat 8, 28-30 in. high). Tables should be strongly

built without foot rests or drawers. A room 22-25 feet wide will accommodate two 6 ft. tables, but not two 7 ft. tables.

3. Chairs. Strongly built, standard height (18 in.), without arms. (See Certification No. 272 for School Furniture, issued by State Division of Purchase and Contract.)

4. Librarian's desk. A flat-top desk similar to that for a teacher is desirable in the small school. The top drawer should be deep enough to hold 3 in. by 5 in. book cards. In larger schools a regulation library loan desk is desirable.

5. Pamphlets or vertical file to care for pamphlets, pictures, clippings, etc. (At least 4 drawers, preferably legal size.)

6. Catalog case to hold 3 in. by 5 in. catalog cards. Each drawer should be fitted with a rod.

7. Bulletin board. Cork or porous composition board. 24 in. by 36 in. for one and 36 in. by 72 in. for another are convenient sizes.

8. Magazine racks. (May be made as part of shelving.)

9. Dictionary stand of wood.

10. Typewriter (for larger schools).

C. Books.

1. Basic collection of 500 titles selected from the State-approved lists and including the distribution indicated below. Government documents, textbooks, and pamphlet type books are not included.

Dewey Decimal Nos.	*Subject*	*Minimum No. Required*
000-099	General Works	
030	Approved Encyclopedia (copyrighted within 10 years) *World Book, Americana, Britannica*	1 set
100-199	Philosophy and Conduct	5
200-299	Religion	10
300-397	Social Science	
300-369	Economics, Civics, Government	30
390-395	Customs and Holidays	10
400-499	Languages	
423	English Unabridged Dictionary	1
	Foreign Language Dictionary for each language taught	1
500-599	Science	25
600-699	Useful Arts	25
700-799	Fine Arts	10

Dewey Decimal Nos.	*Subject*	*Minimum No. Required*
800-899	Literature (except Poetry)	25
821-821.8	Poetry	25
900-999	History	
912	Atlas	1
910-919	Geography and Travel	25
920-921	Biography	35
900-909, 930-999	History	85
F, SC	Standard Fiction and Story Collections	160
	Standard Catalog for High School Libraries (order from H. W. Wilson Co., 950 University Ave., New York 52, giving average daily attendance for high school)	1

2. For schools of more than 100 enrollment the collection should contain not fewer than five books per pupil selected from the *Standard Catalog for High School Libraries*, the N.C.E.A. *Library Book Catalogue*, Division of Textbooks' *Book List for the High School Library*, and other approved lists. A book collection averaging ten books per pupil is desirable. Books should be selected by a committee composed of the librarian and teachers. Pupils may be added to the committee. The following percentages are suggested as a guide for distribution by subject:

Dewey Decimal Nos.	*Subject*	*Percentage*
000-099	General Reference	2%
100-199	Philosophy	1%
200-299	Religion and Mythology	1%
300-399	Civics, Economics	5%
400-499	Languages	1%
500-599	Science	10%
600-699	Useful Arts	10%
700-799	Fine Arts	2%
800-899	Literature	15%
910-919	Geography and Travel	7%
920-929	Biography	9%
900-909, 930-999	History	12%
F and SC	Fiction and Story Collections	25%

3. Only books in good physical condition are acceptable. A well balanced collection should be maintained.

D. Magazines and newspapers.

Enrollment to 100, a minimum of 5 magazines.
Enrollment 100-200, a minimum of 10 magazines.
Enrollment 200-300, a minimum of 15 magazines.
Enrollment more than 300, a minimum of 20 magazines.

1. Minimum requirements in magazines selected from the following and including a variety of types. Recommendations for first purchase are double starred, next purchase single starred.

Agriculture: *Country Gentleman, Progressive Farmer.*
Art: *School Arts.*
Aviation: *Air News, Aviation, *Flying, Model Airplane News.*
Current topics: ***Life*, **Newsweek, Time, U. S. News.*
General content: *American Girl, *American Magazine, **Boys' Life, Open Road for Boys, Collier's, Saturday Evening Post, 4-H World Horizons, Scholastic.*
Health and physical education: *Athletic Journal, Hygeia, Southern Coach and Athlete.*
Homemaking and fashions: *American Home, Better Homes and Gardens, House and Garden; Glamour, Mademoiselle, *Seventeen; Good Housekeeping, Ladies' Home Journal, McCall's, Woman's Home Companion; Consumers' Guide.*
Literary: *Atlantic Monthly, Harper's Magazine, **Reader's Digest.*
Miscellaneous: *Building America, Plays, Wilson Library Bulletin, Gregg Writer* (in shorthand).
Music: *Musical America, School Musician.*
Negroes: *Crisis, Negro Digest, Negro History Bulletin, Opportunity.*
North Carolina: *State Magazine, We the People.*
Science and nature: **Popular Mechanics*, ***Popular Science Monthly, Science Digest, Scientific American, Science News Letter; Junior Natural History Magazine, Natural History, Nature Magazine, Audubon Magazine; Radio-Craft, Radio News.*
Travel: ***National Geographic, Holiday, Travel.*
Vocations: *Industrial Arts and Vocational Education, Occupations, Popular Homecraft, Vocational Trends, Your Future.*

Magazine subscriptions can be placed with reliable dealers who give combinations and discounts not possible with individual subscriptions. Ask for bids. The following dealers are satisfactory:

Upton G. Wilson Magazine Agency, Madison, N. C.
Mayfair Agency, 51 East 33rd St., New York 16, N. Y.
F. W. Faxon Co., 83 Francis St., Boston, Mass.
Washington News Co., 1121 Fifth St., Washington, D. C.

2. Minimum requirements in newspapers: At least one good daily State newspaper. Sunday edition of a large newspaper with world features is desirable.

E. Organization and records.
Required of all schools.

1. Accession record kept up-to-date. This may be part of the shelf list in schools employing trained librarians.
2. Books classified and marked by the Dewey decimal classification system.
3. Shelf list on cards.
4. Card loan system with record of circulation kept.
5. Record of yearly additions, discards, total number of books, circulation statistics.

6. State Annual Library Report blank filled out and sent in.
7. Yearly inventory.
8. Card catalog required in all schools employing trained librarian half time or more.

F. Instruction in the use of books and libraries.

Orientation in the use of the library should be given early in the freshman year, and should be the joint responsibility of the librarian and teachers. More detailed instruction should be part of the class work of every pupil for each school year throughout the high school period. Instruction during the high school course will probably require 18 class periods.

The instruction in the use of library materials should cover the following topics:

1. Introduction to the library, arrangement, library, citizenship, library loan procedures.
2. Parts of the book.
3. Classification of books.
4. Use of card catalog.
5. Dictionary.
6. Encyclopedia.
7. Yearbooks and almanacs.
8. Periodicals and periodical indexes.
9. Atlases, gazetteers, use of maps.
10. Special reference books and indexes of biography, social studies, languages, literature, and science.
11. Audio-visual materials.
12. Recreational reading materials and helps for personal selection.

G. Librarian.

Librarian must hold a high school teacher's certificate and be paid on basis of certificate held. The time in the library should be used for library work with pupils, such as reference help and reading guidance, for technical library organization, and for library publicity. These activities cannot be

carried on successfully if the librarian or teacher-librarian is responsible for study hall discipline. Neither the librarian nor the teacher-librarian should be assigned extra-classroom duties which require time immediately before or after school, as she is needed in the library at these times especially.

1. *Schools with 6-8 teachers.* One teacher with training in library science assigned to library two periods daily, preferably two consecutive periods.

 A teacher with fewer than 18 semester hours in library science should not be assigned to the library more than 1/3 of the teaching day so that she will be rated "in field."

2. *Schools with 9-12 teachers.* One teacher with minimum of 18 semester hours in library science assigned to library half of school day.

3. *Schools with more than 12 teachers.* One teacher with 18 or more semester hours in library science assigned to the library full time; 30 or more semester hours' training is recommended. Schools with more than 25 teachers should employ additional trained library personnel.

H. Library budget.

1. Annual expenditure of at least 50¢ per pupil in average daily attendance for books and magazines. It is desirable to have an annual budget of $1.00-$1.50 per pupil for this purpose.

2. Not fewer than three book orders a year are desirable. One order at the beginning of the school year, one just before Christmas, and one about March assure new publications and curriculum materials being secured before the need is past. The librarian should prepare the order after consultation with the faculty on the selection of books to be purchased.

3. A cash fund of $3.00-$10.00 is needed annually for the purchase of publicity materials, special pamphlets, inks, stamp pads, etc. The librarian should, of course, give an accounting of any funds received by her. Most schools use collected library fines for incidental library supplies or for special purchases.

4. Printed catalog cards for most new publications are available from H. W. Wilson Company at 6¢ a set for each book. It is wise to order these at the same time that new

books are ordered so that cataloging can be completed in minimum time. The librarian should prepare the order for the cards, subject to the principal or superintendent's approval.

5. Funds for cards, pockets, shellac, paste, etc., should be included in the library budget.

MAPS

Two sets of history maps are required, one of World History and one in American History. In union schools, the elementary department must be supplied with all maps required for an accredited elementary school. In schools where the high school department is in a separate building, the high school must have, in addition to the history maps, a complete set of physical-political maps required for an elementary school.

I. *AMERICAN HISTORY MAPS.*
The series listed for an elementary school from the Geo. F. Cram Co., Inc., the Denoyer-Geppert Company, A. J. Nystrom Company and Rand McNally and Company are suitable also for high school use. (See p.)

II. *WORLD HISTORY.*
One of the following sets. The number of maps in the sets vary in order to cover the same historical content in a series. Though the numbers vary, the prices per set are comparable.

A. THE GEORGE F. CRAM CO., INC.
Superior Series. Size of maps, 52" x 40", hand mounted. 42 maps comprise the complete set.

Mtg. ZE. One map with spring roller, steel board $ 6.85

Mtg. ZE2. Two maps on one spring roller, steel board 9.90

1002—Ancient Empires.
1003—Greek and Phoenician Colonies.
1004—Campaigns and Empire of Alexander.
1011—General Reference Map of Roman World.
1018—Crusading Europe.
1020—Industrial and Commercial Europe about 1453.
1025—Europe and the Near East.
1028—Europe After the Congress of Vienna, 1815.
1035—Colonial Possessions of the World Powers, 1914.
1037—The World War.
1038—Europe After the Treaties of 1919-1924.
1042—World Commerce.

B. DENOYER-GEPPERT.
The Breasted-Huth-Harding Wall Map Series. Sizes of the two maps, 44" x 32". 48 maps comprise the complete series.

Mtg. 24. Two maps on each spring roller unit $ 8.50

Twelve maps, 6 units, with case $61.50

B3 —Oriental Empires.
B9 —Sequence—Map of Greece.
B14—Conquest of the Mediterranean.
B16—The Roman Empire.
H4 —Europe; Time of the Crusades.
H13—Europe in 1740 (with partitions of Poland).
H16—Europe after 1815.
H18—Industrial England, 1700 and 1911.
H23—Europe in 1914.
H24—Economic Europe.
H28—Central Europe, 1918-1922.
H32—World, 1918-1937.

C. NYSTROM.

Webster-Knowlton-Hazen Series. Size 50" x 38". 45 maps comprise the complete series.

Mtg. 02-2. Two maps mounted on spring roller, each unit.....$ 9.00

Mtg. 06. 12 maps, two maps on spring roller for utility case. Hand mounted.....$57.00

Mtg. 06. 12 maps, two maps on spring roller for case with removable mountings. Hand mounted.....$63.50

AH4 —Oriental Empires.
AH5 —Greek Expansion and Conflict, 1500-404 B.C.
AH9 —Alexander's Empire, 323 B.C.
AH11 —Development of the Roman Empire, 264 B.C. 180 A.D.
MM2 —Christian Europe and the Crusades.
MM4 —Economic Europe in the Middle Ages.
MM10—Europe after the Peace of Utrecht, 1713.
MM14—Europe after the Congress of Vienna, 1815.
MM16—The Great War, 1914-1918.
MM21—Rise and Decline of the Ottoman Empire, Balkan States.
MM23—The World After the World War.
MM24—Industrial Revolution in England.

D. RAND-McNALLY.

Westerman Series. Size 66" x 46". 11 maps comprise the complete series.

Mtg. MC. Single map, on spring roller, portable steel board.....$10.25

Set of 6, mounted on one roller (Multi-map mounting).....$54.00

WA433—Ancient Oriental Empires.
WE300—The Roman Empires.
WG300—Europe and Western Asia at the Time of the Third Crusade.
WK300—Europe in 1815, after the Treaty of Vienna.
EL902 —The World in 1914; Colonial Possessions of the Great Powers.
EM300—Europe in 1922, After Treaties of Versailles, St. Germain, Neuilly, Trianon, and Serves.

E. WEBER-COSTELLO.

World History Series. Size 55" x 42". 12 maps comprise the complete series. Maps on single mounting.

Mtg. 12. Spring roller on steel or wood backboard, dust proof cover. Each.....$ 9.00

I—Ancient World to 275 B.C.
II—Roman World about 150 A.D.
VII—Europe in 1815.
VIII—Europe in 1914.
XI—Latin America.
XII—World in 1939.

Recommended but not required.

1. *Democracy and citizenship charts.*
 Denoyer-Geppert Company.
 A. J. Nystrom Company.
2. *South America.*
 Denoyer-Geppert Company.
 The Hispanic American Series.
3. *Maps for foreign language and English classes.*
 Geo. F. Cram Co., Inc.
 Denoyer-Geppert Company.
 A. J. Nystrom Company.
 Rand McNally and Company.

(See also recommended items for the elementary grades, p. 35.)

SCIENCE LABORATORY

There must be set apart for laboratory work at least one room which should have the necessary furniture and supplies Suggestions regarding furniture and minimum laboratory apparatus lists follow:

Tables. For teacher—One demonstration table, 60 in. long, 30 in. wide, 34 in. high; should have drawers, enameled sink, and removable balance rods.

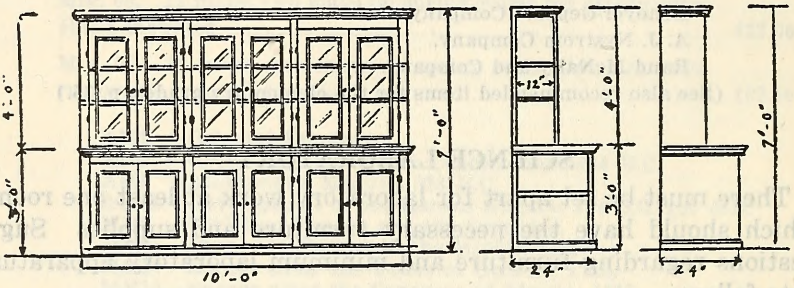
For pupils—A sufficient number of tables with balance rods and stools or chairs to accommodate largest laboratory section. The most popular sizes for tables are: 4-pupil capacity—72 in. long, 42 in. wide, 30 to 32 in. high; 2-pupil capacity—60 in. long, 30 in. wide, 30 to 32 in. high. Although it is desirable for these tables to have drawers, it is not necessary, as apparatus can be stored more satisfactorily in a separate cabinet. Tables should be heavy and rigidly constructed, the top at least 1½ inches thick and well put together. Tables for both teacher and pupil may be built locally.

Chairs or Stools. There should be a number of chairs or stools sufficient to accommodate the largest laboratory section. In systems where there is congestion and one room has to be used for both recitation and laboratory purposes, chairs (without arms) should be supplied; otherwise, stools would be more satisfactory. Height of chairs, 18 inches; stools, 20 inches.

One Room Departments. In many schools it is often desirable to equip one room for science work to be used for both classroom and laboratory work. If the room is supplied with a storage cabinet for apparatus and equipment and with an adequate number of tables and chairs, this makes a very satisfactory arrangement.

Storage Cabinet. There should be a storage cabinet in each school for laboratory apparatus. In most systems the one described below would be satisfactory. In the larger schools, however, a cabinet with additional sections should be provided.

PLAN FOR A CABINET FOR SCIENCE EQUIPMENT



Dimensions for cabinet:

10 ft. long.
7 ft. high.
36 in., height of lower section.
24 in., width (outside) lower section.
12 in., width (outside) upper section.
2 vertical partitions through middle of cabinet.
2 shelves across units of upper section.
1 shelf in left unit of lower section; none in the other two units.
Wood doors on lower section; glass doors on upper sections.

Water. Running water should be supplied in all laboratories. If possible there should be spigots and sinks for teacher's demonstration table and for each pupil's table; however, one sink connecting every two tables for pupils can be made satisfactory.

Gas. Schools offering only General Science, Biology, and Physics have found that alcohol lamps supply a sufficient amount of heat. Where chemistry is taught, gas should be provided, or a satisfactory source of heat such as the gasoline blast lamp.

Science Laboratory Apparatus. There appear below recommended lists of laboratory apparatus for each science offered in an accredited high school. Every accredited high school must offer General Science, Biology, and either Physics or Chemistry. Many schools are prepared to offer both Physics and Chemistry.

In the purchase of laboratory apparatus for the several sciences the following *guiding principles* should be observed:

1. Apparatus which is equivalent to that listed will be accepted, including many items which may be made by the teacher of science or the pupils. The sole purpose of apparatus requirements is to provide such equipment as will make good teaching possible.

2. The lists of apparatus have been compiled for each science independently and, therefore, there are some duplications in items. In schools where one laboratory is sufficient for the teaching of all science classes these duplicates should be checked off.

3. The State Division of Purchase and Contract receives bids annually on most of the items listed as required. This contract is designated as Certification No. 334, Laboratory Apparatus. A copy of this certification goes to each county and city superintendent of schools. By ordering through the office of the superintendent, principals can secure apparatus at State contract prices. The items on the State contract are listed alphabetically and the list for each science is given without duplications.

GENERAL SCIENCE

In General Science as much experimental work should be done by the student as possible. Such work should be largely quantitative with an accuracy as high as is consistent with pupils of this age. Pupils may work individually or in groups.

List A includes that apparatus used most frequently by the students in experiments It should be assigned out and be required to be returned in good condition. For proper safe keeping a drawer with lock and key should be provided in the laboratory table for the possession and use of each student or each group of students together.

List B includes all of the apparatus necessary to do all of the experiments and illustrates practically all of the discussions in the usual science text. There is also included in this list some of the most essential demonstrations in the text.

List C includes chemicals sufficient for the entire class.

Since General Science contains some of the subject matter from each of the fields of Physics, Chemistry, and Biology, practically all the apparatus listed below will be found in the other laboratories. Obviously, if General Science is taught in the same laboratory as one or more of the advanced sciences, duplications may be eliminated. It is not desirable to attempt to carry apparatus to and from some other room to teach General Science.

Minimum satisfactory equipment will consist of:

List A. Student apparatus—As many sets of list A as there are groups of students working together.

List B. Apparatus and supplies—One set for the class.

List C. Chemicals—One set for the class.

LIST A. STUDENT APPARATUS

One set for each group pf students working together.

Quantity Recommended	*Quantity on Yand*	*Description*
2		Beakers, Griffin form, 250 cc
3		Bottles, 8 oz. wide mouth
1		Bunsen Burner, with gas and air adjustment (If gas is not available use alchol burner or other source of heat)
1		Clamp, burette
1		Clamp, pinch, Mohr's
1 pkg.		Filter Paper, 11cm.
1		Flask, Florence, 250 cc.
1		Funnel Tube, thistle top, 30 cm.
1 vial		Litmus paper, blue
1 vial		Litmus paper, red
1		Rubber Stopper, 2 hole, to fit wide mouth bottle
3 ft.		Rubber Tubing, /16", hand made white
1 pkg.		Splints
1		Support, single ring stand, with 2 rings
12		Test Tubes, 6" x 3"
1		Trough, pneumatic, 4" x 7" x 10"
1		Wire gauge, asbestos center, 5" x 5"

Cost of set approximately $5.

LIST B. APPARATUS AND SUPPLIES

One set for entire class.

Quantity Recommended	*Quantity on Hand*	*Description*
1		Balance, spring double scale, cap. 8 oz. in ¼ oz. divisions, and 250 grams in 10 gram divisons.
1		Balance, tripe beam, bakelite pan, cap. 610 g x .05g, no extra weights needed
1		Barometer, mercurial, metric and English scales complete with adjustment to .001"
1		Barometer tube, with stopcock
1		Battery, student's demonstration combination cell, complete with elements
1		Battery jar, 8" high, 6" diam. 7" high, 5" diam.

Quantity Recommended	*Quantity on Hand*	*Description*
2		Bells, electric, 6½ cm. gong.
1		Blast lamp, gasoline, ¾ pt.
24		Bottles, screw cap, 8 oz.
12		Bottles, wide mouth, 8 oz.
12		Candles, paraffin, twelves
1 set		Capillary tubes, mounted set of 7
1		Carriage, Hall's, frictionaless cone bearings, length 15. 5 cm.
1		Catch bucket, nickle plated, metal 5x8.5cm
1		Clamp, burette
1		Clamp, condenser, small
1		Clamp, pinch, Mohr's
1		Clamp holder, right angle
1		Compass, small size, indicating
1		Condenser, straight jacket, 250 mm 300 mm 400 mm, long
1		Dam, rubber
1		Dew Point Apparatus, polished nickel-plated cylinder and aspirator bulb
3		Dry cells (dry batteries) std. size 1.5 v, 25 amp on short circuit
1		Electrolysis apparatus, after Brownlee and others
1 pkg.		Filter paper, 11 cm, diam, 100 sht pkg.
1		Flannel pad, 20x30 cm
6		Flask, Florence, Pyrex, 250 cc
1		Friction rod, solid glass, 30 cm long
1		Friction rod, volcanite, 30 cm long
1		Funnel tube, thistle top, straight stem, 30 cm long
1		Galvanometer, portable, jeweled bearing, very sensitive, but made to stand thousands of over-impulses, eliminating necessity for shunts
1		Galvanoscope, compass block with three coils of 1, 25 and 100 turns
1		Inclined plane, with pully, grad. arc.
1		Induction coil
1 box		Labels, Dennison's No. 201 No. 205
2		Lamp chimneys, students
1		Lead plate, 22 x 125 mm
1		Lens, double convex, 5 cm focus
1		Lens, clamp and support
1		Layden jar, full liter size
1		Lodestone
1		Magnet, bar, sq. 15x1x1 cm
1		Magnet, horseshoe, 10 cm long
1		Magnifier, tripod, double lens, wide field
1		Meter stick, grad. to both mm and 1/8"
1		Mirror, concave and convex, metal
1		Mirror, plane, 10x10 cm
1		Mortar and pestle, porcelain, 65 mm
1		Motor outfit, Genamotor, including electromagnet attachment and AC and DC armature
1		Optical bench, student form
1		Petri dishes, 100 mm, Pyrex
1		Prism, right angle, 32x50 mm
2		Pulleys, double, bakelite, 5cm diam
2		Pulleys, single, bakelite, 5cm diam.
1		Pump, air, single form
1		Pump, lift, working model of glass, 35 cm long
2		Push buttons, stamped metal, bronze finish
1 pkg.		Splints (500 per pkg)

Quantity Recommended	*Quantity on Hand*	*Description*
12		Stoppers, rubber, solid, 1 or 2-hole, any size or assorted
1		Support, single ring stand, with 2 rings with 3 rings
12		Test tubes, 6 x ¾"
1		Thermometer, 3 scale
1		Thermometer, engraved scale, 10 to 110°C. length 30 cm
1		Thermometer, o to 220°F
1		Thermometer bulb, air, 5 cm
1		Trough pneumatic, 5x7x10"
1 box		Tubing, glass, outside diam 3/16 and ¼" 6MM
50		Weather maps, blank
1 lb.		Wire, copper, 4 oz. spool, No. 28 4 oz. spool, No. 36 1 lb. spool, No. 22
1		Wire, iron, 4 oz. spool ,No. 20.
1		Wire gauze, asbestos center, 20 mesh, 5x5" asbestos will not peel off

Total cost per set approximately $130

LIST C. CHEMICALS

(If Chemictry is taught in the school, most of the chemicals can be secured from the Chemistry department.)
One set for the entire class.

Quantity Recommended	*Quantity on Hand*	*Description*
1 x 1 lb.		Acid, Hydrochloric, C. P.
1 x 1 lb.		Acid, Sulphuric, C. P.
1 x 1 lb.		Agar Agar, powder
1 x 1 lb.		Aluminum Potassium Sulphate, pure crystals
1 x 1 lb.		Ammonium Hydroxide, pure
1 x 2 oz.		Beef Extract
1 x 12 oz.		Calcium Hypochlorite, technical
1 x 1 lb.		Carbon Tetrachloride, pure
1 x 1 lb.		Copper Sulphate, technical, crystals
1 x 1 lb.		Ether, C. P.
1 x 1 lb.		Iron Filings, fine
1 x 4 oz.		Manganese Dioxide, C. P.
1 x 1 oz.		Magnesium Ribbon
1 x 1 lb.		Marble Chips
1 x 1 lb.		Mercury
1 x 1 lb.		Potassium Chlorate, pure
1 x 1 lb.		Sodium Bicarbonate, pure
1 x 1 lb.		Sodium Hydroxide, technical
1 x 1 oz.		Sodium Metallic, C. P.
1 x 4 oz.		Sodium Peroxide, C. P.
1 x 1 lb.		Zinc, Mossy, Technical

BIOLOGY

Good microscopes are essential for satisfactorily giving a good course in Biology. While only one is given in this list, a school should have several microscopes if possible. Use of a micro-projector is a great help in the study of slides by the class. A wide selection of prepared microscopic slides is a necessary accessory.

Charts are a very essential and helpful teaching aid. Adequate charts should be on hand covering botany, zoology and physiology.

Models are very important and last many years if properly cared for.

Growing plants and living animals should be in every biological laboratory. Those native to the region can be easily collected. Other specimens that can not be kept living may be secured in the preserved form. A very liberal supply is desirable and it should be increased yearly until an adequate museum is built up.

There are numerous government bulletins published relating to plant and animal life that will be helpful to teachers of these courses. A list of such publications may be secured from the Bureau of Biological Survey, United States Department of Agriculture, Washington, D. C.

The Forest Service of the United States Department of Agriculture also has a list of bulletins relative to plants and trees. On request the Bureau of Fisheries, of the Department of Commerce, Washington, D. C., will supply schools with a list of its publications relating to fish.

Dissection of the common zoological forms should be done by each student or group of students. These forms include starfish, crayfish, earth worms, frogs, perch, grasshoppers, etc. They may be collected locally if desired and possible. However, considerable work is involved in collecting and unless past experience has proven that such specimens actually will be collected in sufficient quantities and in satisfactory quality, they should be purchased. On the basis of time and cost of making such collection trips, it is probably cheaper to buy them. In addition to the above common types a rather complete demonstration set should be provided for the teacher's use and demonstration.

The equipment is listed in three groups below.

List A. Student or individual equipment is that required for each student or each group of students working together.

List B. General apparatus is sufficient for the entire class and includes extra items to take care of breakage and also teachers demonstration apparatus.

List C. Chemicals—sufficient for the entire class.

LIST A. INDIVIDUAL APPARATUS

(One set for each student or each group of students working together.)

Quantity Recommended	*Quantity on Hand*	
1		Beaker with lip, 250 cc.
2		Bottles, wde mouth, 8 oz.

Quantity Recommended	*Quantity on Hand*	*Description*
1		Bunsen burner, new form, with needle valve control (If gas is not available use alcohol lamp or other source of heat.)
1		Dissecting pan, with wax
1		Dissecting set, including scalpel, forceps, scissors, two dissecting needles, and 6″ rules, in leatherette case.
1		Insect killing bottle, cyanide preoared 8 oz.
1		Magnifier, tripod, double lens, wide field
3 ft.		Rubber tubing, ¼″ diameter.
1		Support, single ring stand, with 3 rings
1		Support, test tube, for 13 tubes

Total cost per set—approximately $6.00

LIST B. GENERAL APPARATUS

Minimum—One set for the entire class.

Quantity Recommended	*Quantity on Hand*	*Description*
1		Aquarium, 5–6 gal.
1		Balance, triple beam
12		Balloons, rubber, small with valve
1		Battery jar, 6″ x 8″
12		Beakers, 250 cc
1		Bell jar, open top, 1 gallon
1		Brush, test tube
1 set		*Charts, biology, including both botany and zoology
1 set		**Charts, physiology
1		Clamp, bunsen
1		Clamp, burette
1		Clamp holder
1		Clamp, pinch, Mohr's
1		Classroom jar, life history of frog
1 oz.		Cover glasses, round, 18 mm diameter
1 sq. ft.		Dam, rubber
6		Evaporating dishes, No.00A
3 pkgs.		Filter paper, 11 cm
1		Funnel 3″, 60° angle
1		Funnel, 4″, 60° angle
1		Funnel, hot water
10		Funnel tubes, thistle top, stright stem, 30 cm. long
1		Graduate, cylindrical, 100 cc.
1 pkg.		Insect pins, No. 2
1 box		Labels
12 vials		Litmus paper, blue
12 vials		Litmus paper, red
1		Live stock set, plants and animals for aquarium
12		Medicine droppers, straight
1		Microscope, Bausch & Lomb or Spencer, 2 objectives. 1 eyepiece, without case
1		Mirror, 10 x10 cm.
1		Osmosis apparatus, student
6		Riker mounts, 6½″ x 8½″
1		Rubber stopper, 1 hole to fit bell jar

*These may be ordered from the companies supplying the laboratory apparatus or from the Denoyer-Geppert Co., Chicago (New General Biology Charts) or A. J. Nystrom and Company, Chicago (Jurica Series).

**Denoyer-Geppert supplies the Arnold Physiology Charts and Nystrom supplies the Johnston Physiology Series.

Quantity Recommended	*Quantity on Hand*	*Description*
12 ft.		Rubber tubing, ¼"
1		Slide of 3 types of bacteria
72		Slides, microscopic, 3" x 1"
1 set		Slides, prepared botany 25 to set
1 set		Slides, prepared physiology, 25 to set
1 set		Slides, prepared zoology, 25 to set
1		Sterilizer, steam
12		Test tubes, 6" x ¾"
12		Test tubes, 150 x 18 mm.
1		Thermometer, double scale, 12"
1 lb.		Tubing, glass, 6 mm.
12		Watch glasses, Syracuse with beveled writing surface
1		Wire, platinum, in glass handle
1		Y tube, ¼" glass

Total cost per set—approximately $200

LIST C. CHEMICALS

(If Chemistry is taught in the school, most of the chemicals can be secured from the Chemistry Department.)

Minimum—One set for the entire class.

Quantity Recommended	*Quantity on Hand*	*Description*
4 oz.		Agar Agar, shreds
1 qt.		Alcohol, denatured
1 lb.		Ammanium Hydroxide, C. P.
2 oz.		Beef Extract
1 lb.		Boric Acid, crystals, pure
4 oz.		Carbolic Acid, U. S. P.
1 lb.		Chloroform, pure
1 x 10 grams		Eosin, Y.
1 lb.		Ether, pure
½ gal.		Formaldehyde, pure
1 lb.		Glycerine, C. P.
1 lb.		Hydrochloric Acid, C. P.
1 oz.		Iodine, crystals, U. S. P.
1 lb.		Lime Water
1 x 10 g.		Methyl Blue
1 lb.		Nitric Acid, C. P.
4 oz.		Pancreatin, U. S. P.
4 oz.		Pepsin, U. S. P.
4 oz.		Peptone From Meat
1 oz.		Phenolphthalein, pure
1 lb.		Potassium Bichromate, C. P.
1 lb.		Potassium Cyanide, pure
4 oz.		Potassium Iodide, C. P.
1 lb.		Sodium Hydroxide, C. P., pellets
1 lb.		Sulphuric Acid, C. P.

Total cost per set—approximately $16

CHEMISTRY

It is very essential in teaching chemistry to have laboratory work done by students individually or in groups. Each student or group of students should be assigned a set of the Student Apparatus and be held responsible for its care and return it in good condition. For this purpose a chemistry laboratory table with a

drawer about 10 x 10 x 15 inches should be provided with lock and key.

Much valuable training is obtained by the student in Chemistry in laboratory technique. One of the most valuable features of such technique is cleanliness and orderliness.

The apparatus and materials listed below provide for about sixty experiments as well as most of the demonstrations in the usual text

LIST A. STUDENT APPARATUS

One set for each group of students working together.

Quantity Recommended	*Quantity on Hand*	*Description*
1		Apron, rubberized cloth, large size
1		Beaker, with lip, capacity 50 cc
1		Beaker, with lip, capacity 250 cc
1		Beaker, with lip, capacity 400 cc
1		Blow pipe, brass, plain 8"
5		Bottles, reagent, 4 oz. Nos. 2, 4, 5, 15, 61, glass stoppered with name blown in glass
4		Bottles, wide mouth, 8 oz.
1		Brush, test tube
1		Bunsen burner
1		Clamp, burette
1		Clamp, test tube
1		Crucible cover, porcelain, No. 0, diameter 42 mm.
1		Crucible, porcelain, No. 0, 15 cc.
1		Deflating spoon, brass, +" cup, 15" handle
16		Dishes, evaporating, porcelain, No. 00A, capacity 70 cc
1		File, triangular, 4"
1 pkg.		Filter paper, 11 cm. diameter
1		Flask, distilling, glass, 250 cc.
1		Flask, flat bottom, glass, 250 cc.
1		Funnel, glass, 125 mm. diameter.
1		Funnel tube, thistle top straight stem, 30 cm. long
1		Graduate, Ilindrical, 100 cc. x 1 cc.
1		Ignitive tube, 150 x 20 mm.
1 vial		Litmus paper, blue
1 vial		Litmus paper, red
1		Rubber stopper, 1-hold to fit 250 cc. flask
1		Rubber stopper, 1-hole to fit combustion tube
1		Rubber stopper, 1-hole to fit test tube
1		Rubber stopper, to fit wide mouth bottle, 2-hole
3 ft.		Rubber tubing, red antimony, ¼" diameter, 1/16" wall
1		Support, ring stand, with 3 rings
1		Support, test tube, 6 tube
12		Test tubes, 6" x ¾"
1		Tongs, crucible, 9" long
1		Triangle, pipestem, 2" side
1		Trough, pneumatic, iron, 4" x 7" x 10"
1		Watch glass, 2½"
1		Wingtop, brass
1		Wire gauze, asbestos center, 20 mesh, 5" x 5"

Total cost per set—approximately $18.00.

LIST B. GENERAL APPARATUS

One set for the entire class.

This list contains pieces only occasionally used by students, pieces used by the teacher in demonstrations, and additional amounts of the more breakable student glassware.

Quantity Recommended	*Quantity on Hand*	*Description*
4 oz.		Absorbent cotton
12		Asbestos sheets
1		Babcock milk tester, 8 bottle size
1		Balance, triple beam, capacity 111 grams, sensibility .01 grams
1 pair		Bar magnts, size 15 x 1.9 x 7 cm.
1		Barometer, mecurial, Metric and English scales with vernier
2		Battery jars, 8" high, 6" diameter
3		Beakers, with lip, capacity 100 cc.
12		Beakers, with lip, capacity, 250 cc.
12		Beakers, with lip, capacity, 400 cc.
2		Burettes, Geissler, with glass stopcock, capacity 50 cc., graduated to 0.1 cc.
6		Calcium chloride tubes, 15 cm. long
12		Candles, paraffin
12		Charcoal blocks, 4" x 1" x ¾"
1		Chart of atoms
2		Clamps, burette
1		Clamp, condenser, small
1		Clamp holder, right angle
3		Clamps, screw compressor
4		Combustion boats, porcelain, 60 x 10 mm.
4		Combustion tubes, 30 x 15 cm.
2		Condensers, straight jacket, Liebigform, 300 mm'
1		Conductivity tender, simplified from
1 sq. ft.		Copper sheet, No. 24
4 oz.		Copper wire, No. 28
1 set		Cork borers, brass, set of 6
6		Crucibles, porcelain, No. 0, 15 cc.
6		Croucible covers, porcelain, No. 0, diameter 42 mm.
1		Dish crystallizing, glass 70 x 50 mm.
16		Dishes, evaporating, porcelain, no. 00A, capacity 77 cc
1		Electrolysis apparatus, after Brownlee and Others.
1		Filter pump, high pressure
1		First aid cabinet
6		Flasks, Erlenmeyer, 250 cc.
6		Flasks, Erlenmeyer, 500 cc.
6		Flasks, flat bottom, 250 cc.
6		Flasks, flat bottom, 500 cc.
1		Flask, volumetric, 100 cc. capacity
1		Gas generator, Kipp's, 500 cc.
24		Glass plates, 4" x 4"
12		Glass rods, stirring, 6" x 3/16"
2 lbs.		Glass tubing, 3/16"
1		Graduate, cylindrical, 500 cc.
1		Hydrometer, for light and heavy liquids, 30 cm. long
1		Hydrometer, jar 30 cm, high, 5 cm, diameter, with lip
1		Hydrometer, milk, Quevenne scale
12		Ignition tubes, 150 x 20 mm.
2 boxes		Labels, Dennison's No. 201
12		Medicine droppers
1 roll		Picture wire, No. 1
2		Pipettes, Mohr's, capacity 10 cc x 0.1 cc,
2		Planatinum wires, with glass handle
2		Retorts, glass, tabulated, capacity, 4 oz.
3 ft.		Rubber tubing, black, 3/8" diameter

Quantity Recommended	*Quantity on Hand*	*Description*
24 ft.		Rubber tubing, red, ¼″ diameter
1		Sand bath, iron, 5″ diameter
4 sheets		Sand paper, fine, 10″ x 12″
1		Sediment Tester for milk
144		Test tubes, 6″ x ¾″
12		Test tubes, 8″ x 1″
2		Thermometers, engraved scale ,–10° to 110°, length 12″
1		Tumeric paper
1		Water bath, copper 5″
1		Wax tapers.

Total cost per set—approximately $160.00

LIST C. CHEMICALS

One set for the entire class.

Quantity Recommended	*Quantity on Hand*	*Description*
1 lb.		Acid, Acetic, 36% C. P.
1 lb.		Acid, Acetic, C. P., Glacial
¼ lb.		Acid, Arsenous, C. P.
¼ lb.		Acid, Bensoic, U. S. P.
¼ lb.		Acid, Citic, C. P.
6 lbs.		Acid, Hydrochloric, C. P.
6 lbs.		Acid, Hydrochloric, technical
¼ lb.		Acid, Lactic, 85%, C. P.
7 lbs.		Acid, Nitic, C. P.
1lb.		Acid, Oxalic, C. P. crystals
¼ lb.		Acid, Phosphoric, Ortho, U. S. P., 85%
1 oz.		Acid, Pyrogallic, crystals, U. S. P.
9 lbs.		Acid, Sulphuric, C. P.
9 lbs.		Acid, Sulphuric, techical
¼ lb.		Acid, Tartaric, C. P.
1 qt.		Alchol, Ethyl, denatured
1 qt.		Alchol, Methyl, Synthetic
¼ lb.		Alumnium Metal, granulated, 30 mesh
1 lb.		Aluminum Acetate, pure
1 lb.		Aluminum Potassium Sulphate, pure
1 lb.		Aluminum Sulphate, ground, iron free, technical
1 lb.		Ammonium Carbonate, lumps, pure
1 lb.		Ammonium Carbonate, lumps, pure
1 lb.		Ammonium Chloride, C. P.
4 lbs.		Ammonium Hydrixide, C. P.
1 oz.		Ammonium Molybdate, C. P.
1 lb.		Ammonium Nitrate, C. P.
¼ lb.		Ammonium Oxalate, C. P.
1 lb.		Ammonium Sulphide, light C. P.
1 oz.		Aniline Color, brown, Bismark
1 oz.		Aniline Color, red, Congo
1 oz.		Aniline Color, violet, Methyl
¼ lb.		Antimony Metal, powder
¼ lb.		Antimony Oxide (ous) tri, C. P.
¼ lb.		Antimony Potassium Tartrate, pure
1 lb.		Barium Choloride, C. P. crystals
¼ lb.		Barium Dioxide, C. P.
1 lb.		Barium Hydroxide, technical
1 pt.		Benzole (Benzene) purified
1 oz.		Bismuth, metal, C. P.
1 oz.		Bismuth Nitrate, C. P., crystals
1 oz.		Bromine, C. P.
1 oz.		Cadmium Nitrate, C. P.
½ lb.		Cadmium Sulphare, C. P., crystals

Quantity Recommended	*Quantity on Hand*	*Description*
1 lb.		Calcium Carbide
5 lbs.		Calcium Carbonate (Marble chips)
1 lb.		Calcium Chloride, Anhydrous, granulated, technicl
1 lb.		Calcium Chloride, C. P., crystals
5 lbs.		Calcium Hydroxide, powder, U. S. P.
1 lb.		Calcium Fluoride, technical, powder
12 oz.		Calcium Hypochlorite (Bleaching powder)
1 lb.		Calcium Oxide, technical, lump
1 lb.		Calcium Sulphate, lumps (Gypsum)
4 oz.		Camphor, refined
1 lb.		Carbon Bisulphide, pure (can be shipped freight only)
1 lb.		Charcoal, animal, granulated
1 lb.		Charcoal, wood, lumps
1 lb.		Charcoal, wood, powder
1 lb.		Chlorine Water
¼ lb.		Chloroform, pure
¼ lb.		Chromium Sulphate, C. P.
1 oz.		Cobalt, Nitrate C. P.
1 lb.		Copper Metal, foil B. & S. No. 36
1 lb.		Copper Metal, turnings, fine
1 lb.		Cooper Nitrate (ic) C. P.
1 lb.		Cooper Oxide (ic) C. P., black powedr
1 lb.		Copper Oxide (ic) C. P., wire form
¼ lb.		Cooper Sulphate, powder, C. P., Anhydrous
1 lb.		Copper Sulphate, crystals, technical
1 lb.		Dextrose, pure
1 lb.		Ether, Sulphuric, pure
¼ lb.		Fehling's Solution "A"
¼ lb.		Fehling's Solution "B"
¼ lb.		Gelatin
1 lb.		Glycerine, pure
1 oz.		Iodine, U. S P., resublimed
1lb.		Iron Metal, filings, fine
1 lb.		Iron Metal, powder
¼ lb.		Iron Ammonium Sulphate (ous) C. P.
1 lb.		Iron Chlorine (ic) lumps, pure
¼ lb.		Iron Nitrate (ic) C. P., crystals
1 lb.		Iron Sulphate (ous), crystals, technical
1 lb.		Iron Sulphide (ic) (Pyrites)
1 lb.		Kaolin, powder (China Clay)
1 lb.		Lead Metal, foil
¼ lb.		Lead Acetate, U. S. P.
¼ lb.		Lead Nitrate, technical, crystals
1 lb.		Lead Oxide, Mono. (Litharge)
1 lb.		Lead Oxide, Tera, pure (red lead)
1 oz.		Lithium Chloride, C. P.
1 oz.		Litmus Cubes
¼ lb.		Logwood Extract
1 oz.		Magnesium Metal, ribbon
1 lb.		Magnesium Chloride, technical, crystals
1 lb.		Magnesium Oxide, U. S. P.
1 lb.		Magnesium Sulphate, crystals, pure
1 lb.		Manganese Dioxide, technial, powder
¼ lb.		Manganese Sulphate, C. P.
1 lb.		Mercury Metal, U. S. P.
¼ lb.		Mercury Chloride (ic) U. S. P.
1 oz.		Mercury Nitrate (ic) C. P.
¼ lb.		Mercury Nitrate (ous) C. P.
¼ lb.		Mercury Oxide (ic) pure, red
1 oz.		Methyl Orange (dry indicator)
¼ lb.		Nichel Nitrate, C. P., crystals
1 pt.		Oil, cocoanut

Quantity Recommended	*Quantity on Hand*	*Description*
1 pt.		Oil, cottonseed
1 lb.		Paraffin, medium
¼ lb.		Permutit (Zeolite)
1 lb.		Petrolatum, white
1 oz.		Phenolphthalein, U. S. P.
¼ lb.		Phosphorus, yellow, sticks
1 oz.		Phosphorus, Amorphous, red
1 lb.		Potassium Bichromate, technical, crystals
¼ lb.		Potassium Bitartrate, U. S. P.
¼ lb.		Potassium Bromide, U. S. P.
1 lb.		Potassium Chloride, granulated, U. S. P.
¼ lb.		Potassium Chloride, C. P., crystals
1 lb.		Potassium Chromate, pure, crystals
¼ lb.		Potassium Cyanide, granulated, pure
1 lb.		Potassium Ferricyanide, crystals, pure
¼ lb.		Potassium Ferrocyanide, crystals, pure
1 lb.		Potassium Hydroxide, U. S. P., pellets
¼ lb.		Potassium Iodide, U. S. P.
1 lb.		Potassium Nitrate, C. P., crystals
¼ lb.		Potassium Permanganate, U. S. P.
1 lb.		Potassium Sulphate, pure
¼ lb.		Potassium Sulphocyanide, C. P.
1 bottle		Rennet Tablets (100)
1 lb.		Rosin, powder
¼ lb.		Silver Nitrate, C. P.—U. S. P.
¼ lb.		Soap, castile, powder
¼ lb.		Sodium Metal
1 lb.		Sodium Acetate, technical, crystals
1 lb.		Sodium Bicarbonate, powder, U. S. P.
1 lb.		Sodium Borate, U. S. P., crystals
1 lb.		Sodium Calcium Hydroxide (soda lime)
1 lb.		Sodium Carbonate, technical, crystals
1 lb.		Sodium Carbonate, C. P. Anhydrous
5 lbs.		Sodium Chloride, U. S. P.
1 lb.		Sodium Hydroxide, U. S. P., pellets
1 lb.		Sodium Nitrate, C. P., crystals
1 lb.		Sodium Nitrate, granulated, pure
1 lb.		Sodium Phosphate, Mono., C. P.
1 lb.		Sodium Phosphate, C. P., granulated, dibasic
1 lb.		Sodium Potassium Tartrate (Rochelle Salt), pure
1 lb.		Sodium Sulphate, technical, crustals
1 lb.		Sodium Sulphide, technical, fused
¼ lb.		Sodium Sulphocyanide, C. P.
1 lb.		Starch, corn
1 lb.		Starch, wheat
¼ lb.		Strontium Nitrate, pure
¼ lb.		Sucrose, C. P.
1 lb.		Sulphur, flowers, powder
5 lbs.		Sulphur, roll, lump
¼ lb.		Thermit, black
8 oz.		Thermit Igniting Mixture (8 oz. can)
¼ lb.		Tin Metal, mossy, pure
¼ lb.		Tin Metal, pure, foil
¼ lb.		Tin Chloride (ic) C. P., crystals
1 lb.		Zinc Metal, mossy
1 lb.		Zinc Chloride, granulated, Technical
1 lb.		Zinc Sulphate, crystals, Technical

Total cost per set, approximately $80.00.

PHYSICS

Student experiments are considered essential in the Physics class. Those experiments that require the more expensive equipment may be performed by the teacher or as group experiments.

The list of Student Experiment Apparatus below provides for 50 experiments. Those selected require the least expensive equipment.

When more than one group of students perform the same experiment at the same time it is obvious that multiples of some of the items must be provided.

The maximum number of pupils in each group should not exceed four and the maximum number of experiments conducted in the laboratory at one time should not exceed four.

The Demonstration and General Stock list below includes the apparatus needed for the more important demonstrations and also provides for some of the more expensive experiments.

LIST A. STUDENTS EXPERIMENT APPARATUS

One set for the entire class.

Quantity Recommended	*Quantity on Hand*	*Description*
1		Ammeter, D.C. double scale, ranges of 1 and 10 amperes
1		Ampere's rule apparatus
1 lb.		Annunciator wire, copper, D.C.C. No. 18
1		Balance, demonstration, meter stick clamp and V bearing
1		Balance, Harvard trip
1		Balance, spring, double scale, capacity 8 oz. in ½ oz. divisions, and 250 grams in 10 gram divisions
1		Beaker, with lip, capacity 100 cc.
1		Block, water-proof wood, 7 x 4.5 x 4.5 cm .
1		Block, water-proof wod 7.5 x 7.5 x 3 .8 cm.
1 pkg.		Blue print paper
1		Bunsen burner
1		Burette, Geissler, capacity 100 cc., graduated to 1/5cc.
1		Caliper, vernier, Metric and English
1		Calorimeter, with cover and stirrer, 14 cm. high, 11 cm. diameter, capacity 250 cc.
1		Catch bucket, polished aluminum, 6.5 x 8 cm., capacity 250 cc.
1		Clamp, burette
1		Clamp, screw compressor
1		Clamp support, for Harvard trip balance
1		Compass, 50 mm. diameter
6		Compasses, small size, 10 mm. diameter
1		Composition of force board, including 3 spring balances
1		Condenser, Liebig's, glass, 400 mm. long
10		Corks, flat, quality XX, 1" diameter
1		Cylinder, alumnium, with hook, 7.5 cm. high, 2.3 cm. diameter
1		Cylinder, water-proof wood, 8 cm. high, 4 cm. diameter
1 pkg.		Darning needles, 7.5 cm. long
2		Dry cells, standard size, 1.5 volts, 25 amperes on short circuit
1		Flask, distilling, 250 cc. capacity

Quantity Recommended	*Quantity on Hand*	*Description*
1		Flask, Erlenmeyer, 50 cc. capacity
1		Flask, Erlenmeyer, filtering, with side neck 1000 cc. capacity
1		Forceps, steel, 5″ long
1		Funnel, glass, 100 mm. diameter
1		Funnel tube, thistletop, stright stem, 30 cm. long
1		Galvanometer, portable, jeweled bearing
1		Galvanoscope, compass block with three coils of 1, 10, and 40 turns
1		Gauge, iron wire, 20 mesh, 5″ x 5″
1		Generator, steam, with standard steam boiler water gauge
4 oz.		German silver resistance wire, No. 30, D. C. C.
1 lb.		Glass tubing, ¼″
1		Graduate, cylindrical, graduated up and down, 250 cc. by 2 cc.
1		Graduated depth tube, aluminum, one end closed, 30.5 cm. long, 2. 5 cm. diameter.
1		Gravity cell, closed circuit cell, gallon size
1		Hall's carriage
1		Hydrometer jar, 30 cm. high, 5 cm. diameter, with lip
1		Incandescent lapm, carbon filament, 110 volts, 50 watts
1		Incandescent lamp, Tungsten filament, 110 volts, 40 watts
1		Incandescent lamp, Tungsten filament, 110 volts, 100 watts
1		Inclined plane, with pulley
1 pkg.		Knitting needles, 15 cm. long
1		Lead sinker, with hook
1		Lens, double convex, 38 mm. diameter, 10 cm. focus
1		Lens, double convex, 50 mm. diameter, 13 cm. focus
1		Linear Expansion apparatus, with steam jacket and lever arm pointer
1		Magnet, bar
1		Magnet, horseshoe, 7.5 cm. long
1		Magnet, U-Magnet, 14 cm. long
1		Magnet board, for plotting lines of magnetic force
1 set		Magnetic screens, 6 in set, paramagnetic and diamagnetic each piece 8 x8x cm.
1		Magnifier, pocket, +″ diameter
1		Meter stick, graduated to both mm. and 1/8″
1		Metronome
1		Mirror, plane, 4 x 15 cm.
1		Motor, electric, and attachments
1		Overflow can nickel-plated brass, 12.5 cm. high, 7.5 cm. diameter
1		Photometer box, Jolly form
1		Primary and secondary coil, mounted for both vertical and horizontal positions
1		Protractor, brass, 4½″ diameter
2		Pulleys, single, 5 cm. diameter
2		Pulleys, double, 5 cm. diameter
1		Refraction apparatus, index of
1		Resistance box, total resistance 999 ohms
1 set		Resistance coils, set of 8, for use with wheatstone bridge
1		Resonance tube, glass, 4 x 45 cm.
1		Rheostat, fine adjustment, 50 ohms
1		Ring, iron, 3″ diameter
1		Rod, aluminum, 60 cm. long
1		Rod, brass, 60 cm. long
1		Rod, copper, 60 cm. long

Quantity Recommended	*Quantity on Hand*	*Description*
1		Rod, maple, diameter 10 mm., length 105 cm.
1		Rubber stopper, 1-hole, No. 7
1		Rubber stopper, 1-hole, to fit 250 cc. distilling flash
1		Rubber stopper, 1-hole to fit large end of condenser
1		Rubber stopper, 2-hole, to fit steam generator
1		Rubber stopper, 1-hole, to fit 1000 cc. flask
3 ft.		Rubber tubing, white, ¼" diameter, 1/16" wall
1 pair		Scale pans, for use with demmnstration balance screen
1		Screen with apperature, 30 x 15 cm.
1		Screen, white Bristol board, graduated
1		Shaker for filings
1		Support, metal, with gas burner
1		Support, metal, with lamp socket, cord and plug
1		Support, metal, for student's optical bench
1		Support, iron, tripod base, legs 4", rod 5/16" x 18"
1		Support, lens for 4 cm. lenses, to fit meter stick
1		Support, screen, to fit meter stick
1		Support, ring stand, with 3 rings
2		Thermometers, engraved scale, 10° to 110°C, length 12"
1		Thermometer, engraved double scale,–10° to 220°C and 30° to 400°F, length 14"
1		Tube gauge, brass, graduated to 15 mm. by tenths
1		Tumbler, 75 to 80 mm. diameter at top
1		Tuning fork E (320 vibrations) 17.5 cm. long, tone alloy
1		Tuning form G (384 vibrations) 16.5 cm. long, tone alloy
1		Vibrograph
1		Volt meter, D. C. double scale, ranges from 7.5 to 150 volts
1		Volume coefficient tube, with mercury index, 40 cm. long
1		Water trap, glass, 10 cm. long
1		Weight, avoirduplis, 1 lb.
1 set		Weights, brass in wood block, 1 gram to 100 grzms, including 10, 20, 50 100, 200, 500, and 1000 grams
1 set		Weights, slotted, mounted on compact stand, 10 grams to 500 grams
1		Wheel and axle, bakelite, diameter of wheels in ratio 1, 3, 5, and 7
1		Wing top, brass
1 sq. ft.		Zinc sheet, 1/16" thick
1 x 4 oz.		Acid Citric, C. P.
1 x 1 oz.		Camphor, refined, granulated (Gum Camphor)
1 x 1 lb.		Copper Sulphate, C. P., crystals (coarse)
1 x 1 lb.		Mercury Metal, U. S. P.
1 x 1 lb.		Paraffin, solid
1 x 4oz.		Potassium Permanaganate, C. P.

Total cost per set—approximately $200.00

LIST B. DEMONSTRATION AND GENERAL STOCK

One set for the entire class.

Quantity Recommended	*Quantity on Hand*	*Description*
1		*Air pump, motor driven, with plate
1		Ball and ring, to show expansion due to heat
12		Barometer tube, with stop cock
1		Bell jar, hand and bladder, with open top
1		Bell jar, straight from, knob top, 2 gallons
2		Bells, electric, diameter 2½"
1		Block, waterproof wood, 7 x 4.5 x 4.5 cm.

*A motor drive pump is highly desirable, but a hand-driven pump will be accepted.

Quantity Recommended	*Quantity on Hand*	*Description*
1		Caliper, micrometer, Metric, ratchet stop, range 0 to 25 mm. by 0.01 mm., in plush lined case
1		Capillary tubes apparatus, set of 4, 11 cm. long, mounted
1		Cat skin, half skin, about 20 x 20 cm.
1		Center of gravity apparatus, about 15 cm. across
1 pair		Condenser plates, mounted on wooden blocks
2 spools		Copper magnet wire, no. 22, D. C. D., 1 lb. spools
1 spool		Copper magnet wire, No. 36, D. C. C., 4 oz. spool
1 pkg.		Corks, quality XX, assorted, 1 gross, Nos. 0 to 11, 3/8" to 1 1/16" diameter
1 sq. ft.		Dam, rubber
1		Dewpoint apparatus , polished nickel-plated cylinder and aspirator bulb
1		Diffusion Apparatus, including porous cup and glass tube
1		Disc, combined siren and color, gives all tones of diatonic scale
1		Diver, Cartesian
1		Electrolysis Apparatus, after Brownlee and others
1		Electroscope, box form, with gold leaves
1		Expansion bar, unequal, 35 cm. long
1		Flannel pad, 20 x 20 cm
1		Force pump, working model of glass, 37 cm. long
1		Friction rod, glass, solid, 30 x 1. 3 cm.
1		Friction rod, vulcanite, 25 x 1.3 cm.
1		Friction rod, wax, 25 x 1.5 cm.
1		Galvanoscope, compass block, with three coils, 1, 10, and 40 turns
2 spools		German silver resistance wire, no. 28, D. C. D., 4 oz. spools
1		Governor, Watt's form
1		Hooke's Law Apparatus, mirror scale, spring ,and weight holder
1		Hydraulic press, working model of glass
1		Hydrometer, demonstration wood, graduated to mm.
1		Hydrometer, for heavy liquids, 30 cm. long
1		Hydrometer, for light liquids 30 cm. long
1		Induction coil, demonstration form
1 set		Lens, demonstration, 38 mm. diameter, set of 6
1		Leyden jar, size 15 x 7.5 cm., capacity 1 pint
1		Lift pump, working model of glass, 37 cm. long
1		Lodestone
1		Magnet, breaking, 10 x 0.6 x 0.6 cm.
1 pair		Magnets, bar, in box with keeper, size 15 x 1.9 x 7 cm.
1		Optical disc, etched metal dial, complete with lenses
1		Pendulum, electrical, double with ball type
1		Photometer, simple form, including stick supports, 4 candle holder, 1 candle holder, Bunsen screen and support.
1 roll		Piano wire, No. 26, 4 oz. roll
1 set		Pressure tubes, set of 4 glass tubes
1		Proof plane, nickel plated brass disc, insulating handle, 12. 5 cm. long
2		Pulleys, triple, each 5 cm. diameter
2		Push buttons
1		Rain gauge, U. S. Weather Bureau type
2		Rods, carbon, 12" x 1/4"
3 ft.		Rod, copper, 1/2"
1		Rotater, hand form, driving ratio 8 to 1
1		Second-law-of motion apparatus
1		Silk pad, 30 x 30 cm.
1		Sinker, lead, with hook

Quantity Recommended	*Quantity on Hand*	*Description*
1		Sonometer, Key type, mounted resonance case
1		Specific gravity bottle, capacity 25 cc.
1 set		Specific gravity specimens, cylinders 5 cm. long of steel, brass, copper and aluminum
1		Steam engine model, locomotive type, large size, complete model
1 oz.		Tacks, iron
1		Telegraph key
1		Telegraph sounder, 5 ohms resistance
1		Telephone receiver demonstration form, completely dissectible, resistance 75 ohms
1		Telephone transmitter, commercial type
1		Universal source of light for use with optical disc
24		Watch springs, for burning in oxygen
1 x 1 lb.		Acid Hydrochloric, concentrated, C. P.
1 x 1 lb.		Acid Tartaric, U. S. P., crystals
1 x 1 lb.		Aluminum Potassium Sulphate, crystals, pure
1 x 1 lb.		Ammonium Hydroxide, concentrated, pure
1 x 1 lb.		Copper (ic), Sulphate, technical, crystals
1 x 5 lb.		Sodium Chlorida, fine, white, U. S. P.
1 x 1 lb.		Sucrose, U. S.f.
1 x 5 lb.		Zinc Sulphate, pure, crystals

Total cost per set—approximately $200.00

HIGH SCHOOL RECORDS

A reliable index of an efficient high school is a record system which is adequate, accurate, complete and legible. If individual pupil records are to be of use to teachers and principals suitable filing equipment must be provided for the principal's office. Each high school must be provided with sufficient filing equipment to take care of student records. Filing equipment can be secured at State contract prices when purchased through the office of the superintendent.

The State Department of Public Instruction prints and distributes at cost the North Carolina Cumulative Record, a folder that provides a complete and helpful arrangement for keeping the record of a student throughout his school life. If this folder is properly used it will furnish the basis for much helpful guidance.

BUILDING

In order for a school to meet the requirements for accredited rating there must be an adequate, sanitary building. The minimum standard as to rooms is as follows:

A number of regulation-size classrooms sufficient to accommodate all classes without congestion, separate rooms sufficiently large for library, laboratory, principal's office, and an auditorium. In addition, there should be separate rooms for vocational work and, if possible, a teachers' rest room.

All buildings should be heated with steam and have running water. Above all else, rooms should be kept clean and in a sanitary condition. This is especially necessary with respect to toilets.

For specific building standards, see the standards for accredited schools on p. 39). All accredited schools must meet the sanitary requirements prescribed by the State Board of Health.

CLASSIFICATION OF ACCREDITED HIGH SCHOOLS

Schools are rated at the close of the session after all reports have been received and examined. These ratings are published in the *Educational Directory* the following year. This means that ratings in any Directory are those as of the close of schools for the previous session.

New schools will be recommended for accreditation only after inspection by a member of the staff of the Division of Instructional Service. All requirements must be met by January 1 of the year in which the school is accredited.

Schools which meet the minimum requirements for accreditation will be designated in the Directory by the symbol "Acc."

A special rating designated by the symbol "I" will be given to public high schools which have gone beyond the minimum requirements. Private high schools will be designated simply as accredited or non-accredited. To secure the "I" rating a school must show superiority by attaining five or more of the following over and above the minimum standards (See p. 53).

1. A school plant which meets, without deficiencies, all standards with respect to lights, heat, ventilation, water, sanitation, adequacy of playground space, etc. (See School Plant, p. 39).

2. A broad curriculum including both cultural and vocational subjects. This will be determined by a check of the principal's annual report showing the amount and variety of offerings.

3. A program of instruction in music and art that will afford an opportunity for each student to have some training in these subjects, either as an integrated or special course.

4. Vocational and pre-vocational subjects offered which include at least three of the following: business education, home economics, agriculture, industrial arts and trade and industrial education.

5. An organized program of guidance as evidenced by: (1) appointment of a person to head up the program, (2) a system of

records equivalent to the *North Carolina Cumulative Record,* (3) a file of occupational information, (4) a course in occupational information, offered as a separate course or through units of work in existing courses.

6. A program of health and physical education with at least one teacher who holds a certificate in this field. A school with more than twenty teachers shall have a certified teacher for boys and a certified teacher for girls.

7. A part-time librarian with a half day devoted to library service, exclusive of study hall duty; or a whole-time librarian with full time devoted to library service, exclusive of study hall duty. In each case the librarian shall qualify for a State certificate in Library Science. (For minimum requirements see Library, p. 56). A school with more than 25 teachers shall employ additional trained personnel.

NOTE: In evaluating the program in a school consideration will be given to adequacy of plant and facilities for carrying out the program. For example, a school may have a well-planned program in Health and Physical Education with a certified teacher. If, however, there is no gymnasium or facilities for students to take showers, the program would not be considered adequate. Again, a school may have a library of proper size, a trained librarian, and an excellent book collection. If, however, the lighting is deficient or there is no program of instruction in the use of the library, the school would not be considered.

REQUIREMENTS FOR MEMBERSHIP IN THE ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS OF THE SOUTHERN STATES

Schools which are interested in securing recognition by the Southern Association may secure copies of the regulations from the Chairman of the State Committee, J. Henry Highsmith, Raleigh, N. C. One regulation of the Association provides that schools accepted must be in the highest class of schools as officially listed by the State.

PART II.

Factors Relationg To Administration, Organization and Instruction

SUGGESTED TOPICS FOR PRE-SCHOOL MEETINGS

The work conferences of the superintendent of schools with the elementary and high school principals.

1. Plan for in-service professional program.
2. Inventory materials, equipment, texts, and course of study.
3. Study records and reports for individual schools from the preceeding year.
4. Make teacher placement and plan the school program as a whole.
5. Make tentative teacher-pupil load distribution.
6. Discuss the assignment of teachers to special services.
7. Plan for distribution of instructional materials.
8. Inform principals regarding all health services, local, county, State.
9. Work on attendance for the first day of school.
10. Discuss the work of a representative council composed of the principal and representatives from each school.
11. Discuss the organization and value of a parent-teacher association.
12. Emphasize the importance of membership in educational organizations.

Principals and teachers pre-school conference.

1. Plan for in-service professional programs.
2. Give information about register, free basal texts, courses of study, supplementary texts and manuals.
3. Study records and cumulative reports of pupils for the preceding year.
4. Discuss teacher placement and the school program as a whole.
5. Discuss teachers' proposed daily-weekly schedules.
6. Discuss the distribution of special services of the teacher.

7. Discuss the distribution and use of supplies and equipment.
8. Plan for all pupils to use the library.
9. Inform teachers regarding all health services, local, county, State.
10. Give special instructions to first grade teachers concerning the school beginner. (See The Beginner's Day Program, this handbook, p. 171).
11. Emphasize the importance of membership in educational organizations.
12. Discuss the improvement of techniques in counselling.
13. Stress the importance of knowing how to interpret attitudes and behavior patterns of the children you teach. (Refer to Mental Hygiene, this handbook, p. 168).
14. Prepare and discuss the formulation during the year of a statement by the school faculty of the purposes of education. (State course of study bulletins will be helpful.)

SOME SUGGESTED ACTIVITIES BY MONTHS

The suggested activities begun in the pre-school conference will continue throughout the year. Their distribution by months will depend upon the progress the school makes in each and the special needs of the school. Special attention will be needed on the following:

First School Month.

1. Check upon school beginners who did not attend a pre-school clinic; check upon all corrections of defects.
2. Check health record cards and corrections for grades 2-12.
3. Adjust the number of pupils per teacher where needed; make combinations of grades or sections where necessary. (Refer to daily-weekly schedules and programs of work, this handbook, p. 121).
4. Plan to use the total school plant to meet the needs of the whole school.
5. Make clear the need for the adaptation of the course of study to ability groups.
6. Check for needed teaching materials and textbooks for pupils and teachers. Consider rental system for supplementary books.

7. Plan for use of the standard testing program results of the preceding year in connection with improvement of instruction for the individual and groups.
8. Plan for guidance counselling for each "repeater of grade" and for each child new to the school. (See section on Guidance, p. 176).
9. Check ages of school beginners, so as to comply with the State law.
10. Send the preliminary report for the school to the superintendent of the administrative unit for State Department of Public Instruction.
11. Organize or reorganize the parent-teacher association.

Second School Month.

1. Check for proper adjustment and placement of pupils.
2. Check for unifying methods and materials from grade to grade.
3. Work on use of library material with basal and supplementary texts.
4. Follow-up health program.
5. Plan with the teachers for representation in the district teachers meeting.
6. Make the emphasis on special days, such as Hallowe'en, Thanksgiving, and Christmas, contribute to the school curriculum.
7. Plan for more effective uses of the professional library, including current educational publications.

Third School Month.

1. Study pupils' report cards to parents and pupil's progress records to be filed.
2. Emphasize the prevention and correction of learning difficulties.
3. Check up the adaptation of course of study to the needs of ability groups.
4. Follow-up health program. Check thoroughly on the cleanliness and sanitation of the building.
5. Plan for specific uses of selected professional texts.

Fourth School Month.

1. Emphasize school and community programs.
2. Review and summarize work before vacation for Christmas.
3. Check for health corrections which can be made during holidays.

Fifth School Month.

1. Give consideration to re-adjustment of grade programs to meet pupil needs.
2. Study the results of any standard testing program.
3. Use test results to adjust teaching to the needs of the pupils.
4. Study this handbook and other State Department bulletins on pupil progress and promotion policies. (See Publication No. 235, p. 17-25; and this handbook, p. 148).

Sixth School Month.

1. Emphasize the use of materials and improvement in methods of instruction.
2. Plan for Beginners' Day Program.
3. Plan for conferences with parents whose child is having difficulty in adjustments and in subject achievements.

Seventh School Month.

1. Continue study of promotion standards and progress reports.
2. Check the elementary and high school relative to requirements for accreditment and for maintaining and improving present standards in accredited schools.
3. Plan for special school and community projects, as hobby show, community sing, music festival, art exhibit, and general school fair.

Eighth and Ninth School Months.

1. Counsel frequently with the child whose progress is retarded.
2. Report on pupil progress and promotions.
3. Compile and file pupil records and reports.
4. Make tentative plans for summer school study and for next year.

5. Inventory the library materials, instructional supplies, supplementary readers and equipment. Leave a copy of the inventory in the school office and a copy with the superintendent.
6. Compile as a group a school order for library materials and instructional supplies and equipment.
7. Have a Beginner's Day Program.
8. Use the new type commencement program participated in by the students.
9. Prepare all county and State reports.

CLASSIFIED PRINCIPAL'S USE OF THE TENTH MONTH

(Adopted by the State Board of Education, July 5, 1945.)

Division of Time. We suggest that the time (tenth month) be divided—two weeks before the opening of the school session and two weeks after the close of the session, with the further provision that any administrative unit, with the approval of the State Board of Education, be allowed to vary the time allotment to suit local needs.

Payment for Service. We recommend that the principal be paid for his service prior to the opening of the school after he has filed with the superintendent of the administrative unit a required report; that he be paid for services after the close of the school term after he has filed a similar report. It was suggested that these reports be added as a part of the Principal's Annual Report.

Duties to be Performed. We recommend that, during the period of service prior to the opening and following the close of the school, administrative and supervisory duties such as the following be performed by the principal:

1. Confer with the central administrative and supervisory officers and with representatives of the State Department of Public Instruction to plan an overall school program with special reference to the local school program of each principal.

2. Work with janitors, bus drivers, cafeteria managers, and other school personnel to the end that the school plant, supplies, materials, and equipment be in readiness for the opening of the school.

3. Confer with community agencies to enlist their support of the program for the year. (P. T. A., Health Department, Ministerial Association, Attendance Officer, etc.)

Detailed Suggestions. The superintendent of the administrative unit, in conference with his principals, will plan in detail the program of work to be undertaken by each principal. To assist in planning the programs of work, the following worthwhile activities are suggested:

1. Review cumulative records of pupils. Make a special study of pupil failures. Study records of pupils who have dropped out and plan to take steps which will increase the holding power of the school.

2. Study records of the Beginner's Day Program and Preschool Clinic and make plans to give the beginners the best possible start in school.

3. Make necessary reports to the superintendent, including: (1) the usual statistical reports, (2) bus reports, (3) book reports, (4) complete inventories of instructional supplies and equipment, (5) an accurate and detailed financial report covering all receipts and expenditures of money handled by the principal.

4. Check buildings and grounds and list needed repairs and renovations.

5. Study the reports and inventories and make requests to the superintendent's office for all necessary instructional supplies and equipment for the year.

6. Make tentative plans for a series of local faculty meetings for professional study. List the most pressing problems of the school and community and build the professional program around these problems.

7. Appraise the local curriculum and make needed adjustments. Decide on courses to be offered and assign teaching groups to the various faculty members. Assign extra-curricular duties.

8. Make out tentative schedules for the school, including schedules for janitors and bus drivers. Mimeograph and have them ready to present to the school personnel in conferences at the beginning of the session.

9. Make a survey of the school community and develop spot maps showing the location of various families. Check bus routes carefully, at the end and at the beginning of the school year, in

order to make recommendation to the superintendent concerning desirable changes.

10. At the end of the school year, confer with vocational teachers to formulate definite plans for their summer work.

11. Prior to the beginning of the school year, set aside a definite time to confer with pupils and parents, especially for seniors, pupils who have conditions, beginning pupils, and those who have moved into the school district during the summer.

12. Confer with teachers and discuss proposed assignments, especially with new teachers.

Building Principals.

(The following note applying to the duties of building principals was authorized by the State Board of Education, July 5, 1945.)

NOTE: Since the salary schedule for building principals has been substantially increased for 1945-46 over 1944-45, the State Board of Education believes that these principals should provide additional service in a similar way to that expected of classified principals through the tenth month. A tenth month of service for building principals is not required, but the State Board believes that a reasonable amount of additional service should be expected of building principals. It is suggested that superintendents of local units secure from building principals of five and six teacher schools one week of additional service prior to the opening of school and for one week following the close of school. A total of one week additional service for the building principal of a four teacher school will probably be adequate. The duties performed during the extra time can be those outlined for classified principals during the tenth month.

SUGGESTIONS FOR THE TEACHER IN BEGINNING THE YEAR'S WORK

I. *Get acquainted with your group of pupils both as individuals and as a group by:*

1. Visiting the homes of the children before school starts, where at all possible during the preceding spring following the Beginners' Day Program.
2. Finding out the child's health and intellectual condition from as many reliable sources as possible—the mother, former teacher, health cards, permanent record cards, nurse, questionnaire to pupils and parents, etc.

3. Finding out his special abilities and interests from his previous school, play, and home experience, especially those which offer opportunity for original planning and execution through such means as informal discussion of present interests.

4. Preparing a written record by individuals of what you have found out. For example, in one school each teacher prepares an informal personality study of all of her pupils which is attached to the cumulative record. Here are some samples:

A—Does very nice work. He could be a strong pupil if you can arouse him into taking an active part in all the class work. He seems to do his work simply as a task put before him which he wants to finish as soon as possible in order that he can have some spare time in which to follow his own interests. He likes to read, draw, build models, and collect stamps. Often when you speak to him he seems not to hear, because his mind is otherwise occupied. Sometimes he pretends not to hear; then answers you in a loud tone, as if startled. Home conditions are not very good.

M—Will impress you at first as a very slow pupil, but if you will give her a little personal attention and encouragement she will strive earnestly and make satisfying improvements. Seat her near the front as her eyes are poor. Her reading ability is far beyond her grade except in reading for details.

II. *Get acquainted with the community by:*

1. Attending community clubs, assemblies, parent-teacher association, local educational associations and meeting school and lay leaders.

2. Studying the pictures, maps, graphs, and books on the history and industry of the community.

3. Becoming acquainted with the library material and their facilities for use.

4. Having information on the welfare program and knowing the superintendent.

5. Giving consideration to the cultural needs of the community and deciding on what you can do about it in your long and short-time planning; for example: Club activities, library, the arts.

6. Knowing something of the economic conditions of the children you teach.

7. Finding out some of the persistent interests and activities within the community.

III. *Develop several preliminary plans covering large areas of child experiences by:*

1. Listing all the centers of interest (child problems, unit of work, etc.) revealed in the above survey in the order in which they touch upon those of the largest number. Tentatively selecting the unit problem (or problems) most likely to be of interest to the greatest number of pupils.
2. Making a survey of all available sources of material for both pupil and teacher which will aid in the solution of the unit problem, such as: (a) Printed materials—pictures, maps, charts, globes, textbooks, supplementary books, pamphlets; (b) people to interview in school, out of school; (c) possible movies, radio programs; (d) places to visit in school, out of school; (e) needed raw materials, illustrative exhibits—ink crayon, cloth, paper, clay, plaster, water color, soil, metals, and wood.
3. Determining upon: (a) Several possible approaches or situations which may naturally give use to the problems; (b) possible activities for individuals and groups that may be engaged in; (c) possible ways of summarizing and organizing into a meaningful whole for the children.
4. Putting the whole into a written form for convenient reference, noting anticipated changes that might occur.
5. Determining some means of evaluating changes that occur in the growth of children as individuals.

In using the preliminary plans in actual classroom procedure there will always arise the need for revising the plans, step by step, as the children participate, developing new angles of interest and new needs.

IV. *In the beginning procedures simple rules of democratic living can be observed and stimulated through:*

1. Consideration by children of other children's experiences.
2. Helping them choose the interest to be pursued.
3. Helping children state problems related to their interest. (Objectives.)
4. Helping children make plans (daily, weekly, long-time) for solving problems—giving needed activities, materials and committees: (a) through reading; (b) through planning groups; (c) through excursions and exhibits.

5. Helping children choose or assign duties.
6. Helping children to organize as they go along and in a final way so as to permit them to see the whole and its parts.
7. Continuing throughout activity to read and study yourself, to open up an ever extending field of personal experience.

V. *Using the State curriculum bulletins:*

The State curriculum is a record somewhat of what classroom teachers consider their best experiences. Topics, problems, and problem-solving procedures, which have functioned in other situations will not necessarily be useful in future situations. Certainly they may offer suggestions as to possibilities for the future.

In interpreting professional literature, it is well to define terms so that there will be a clear conception of those terms frequently used.

"The terms correlation and integration are used loosely to cover all sorts of attempts to establish connections between the various subjects of school and college study. More strictly, correlation, fusion, and integration form a series of progressive intensity.

"*Correlation* may be so slight as casual attention to related materials in other subjects, for example, noting while reading the spirited, polished, superficial verse of the Cavalier Poets the ideals and social graces of the cavalier as studies in history. Correlation becomes a bit more intense when it is planned in advance to make the materials of one subject interpret the problems or topics of another.

"*Fusion* designates the combination of two subjects, usually under the same instructor or instructors; supposedly the partners (subjects) are equal, but usually one dominates and uses the other. One of the most common fusions is the blending of literature and history, the history, which has the more definite outline, usually dominating. Fusion may extend to the combination of a whole group of subjects, for example, literature, music, dancing, architecture, plastic arts, and graphic arts. Such courses are organized by common principles, common themes, or other common elements of the subjects included.

"*Integration* is the unification of all study (and other experience). It comes about, for the most part, not through conscious combining of different subjects or activities but through the initiation of vital activities which reach out into various fields and absorb subject content as the roots of a tree absorb food from the soil—without regard to fences or the surface. Complete integration has not yet achieved anywhere and may not be desirable. The closest approaches to complete integration are some of the progressive-school units in which such a purpose as the provision of milk and other needs of the children of indigent family dominates the work of a group for weeks, subject-matter divisions being ignored and any material used whenever it serves the group purpose." *An Experience Curriculum in English.* English Monograph No. 4. National Council of Teachers of English. Appleton-Century, 1935.

SELECTION, PURCHASE AND DISTRIBUTION OF INSTRUCTIONAL SUPPLIES

The success of many important phases of school work is to some degree determined by the type, quality and quantity of the instructional supplies that are used. Much time and effort is given to selecting and listing a good quality of supplies for school uses. This list is published each year by the Division of Purchase and Contract. Copies of this list (certification), is available in the office of the superintendent of each administrative unit.

In order to differentiate between a supply and a piece of equipment, the following definitions are given:

Supply is any article which is consumed in its use.

Equipment is any article which is used from year to year.

Instructional supplies may be differentiated from equipment (such as chairs, tables, books, charts, wall maps, globes, pictures, etc.) by the fact that the teacher or pupils use up the *supplies* in the teaching.

I. Expenditure of Funds.

The greatest cost for the least supplies occurs when a teacher or school purchases individually by retail. Any purchase of instructional supplies from public school funds should be made by the county or city superintendent through and with the approval of the Division of Purchase and Contract. In order to get an item at State contract price, one must use the standard State Purchase Order form which is supplied to the superintendent of schools. The county or city superintendent must approve and *sign* the purchase order.

Instructional supplies may be purchased by the teacher only when private donations and personal money are being used. When a school orders an individual amount or a small supply and has the order sent directly to the school, the postage is high and soon surpasses the savings effected by State contract. *But, where the superintendent of schools assembles the needs of all schools, orders the material in bulk, and has it sent to a central place from which it is distributed, there is a great saving in using the State contract materials.* (Public School Laws, 1945, p. 24, section 115-372, Purchase of Equipment and Supplies, states the regulation regarding the use of State contract material.)

II. Securing Instructional Supplies.

Consumable instructional supplies may be obtained as follows:

A. From State funds allotted for instructional supplies.

There is an instructional supply allowance from the State for each administrative unit based upon a given amount per teacher. On this basis the allowance for 1947-48 was $14.00 per teacher. That money is available to the superintendent of schools for requisitions beginning July 1. From this allowance the purchases are usually, first: the teacher's register, erasers, chalk, pupil report cards, paper, paste, crayon, (tests, if used) and other instructional supplies as far as the fund will go in providing supplies for each classroom. Where and if the same items are provided each teacher out of State funds, the individual school will know which items must be secured from the pupils' instructional supply fees or from local funds.

B. From instructional fees paid by pupils.

In the majority of cases this fee is from 50¢ to 65¢ each, exclusive of the supplementary readers fee. A variety of items can be obtained from a nominal fee. When an instructional fee from pupils is considered necessary, it is advisable for the administrative unit to determine the fee to be paid in each grade. Likewise, it is suggested that the school shall give information to the parents stating why the fee will be collected, and giving the proposed expenditure of the amount collected. Obviously each school would vary in its purchases after a basic minimum of supplies were on hand.

C. From funds appropriated by the county or city unit.

Where a city or county has an appropriation to aid in the instructional supplies, naturally the teachers may have more teaching aids both in variety and in quantity. The expenditure of this money through State contract not only gives some reduction in cost, but the items listed in those certifications have been approved for quality.

D. From a collection of materials from the community.

The resourcefulness of the pupil and teacher in collecting and using those items from the local community furthers instruction. Included in this may be such items as textile scraps, charcoal for drawing, wrapping paper,

strings, clay, stones, vines for weaving, gourds, boxes, bottles and glass containers, grain and nuts (objects for counting), cotton for upholstering, tacks and nails, pictures, and nature specimens.

III. Recommended Procedure.

Each administrative unit needs a requisition form for instructional supplies. Teachers would profit by assisting in making the requisition form to be used in inventory of materials on hand, and in requisitioning supplies.

The teacher needs information on the following topics in the use of funds:

1. The amount of State allowance for instructional supplies.
2. The amount of the allowance fund to the school from the county or city.
3. The amount of the instructional pupil fee for the local school.
4. Direction as to which supplies may be purchased from State funds; which from pupil fees; and which from local unit funds.
5. Which materials should be supplied first in a given grade.
6. The prices in the State contract listings (or certifications). Be sure to use the current certification. The certifications in each superintendent's office gives prices quoted from one or more contractors, and the names of distributors of each item.
7. The suggestions in the State course of study bulletins on materials needed in the program:

 Art in the Public Schools, Publication No. 238, pp. 129-131. Physical and Health Education, Publication No. 219, pp. 16-20. Music in the Public Schools, Publication No. 239, pp. 70-115. Science for the Elementary School, Publication No. 227, pp. 37-38; 51-52; 108-115.

 Language Arts in the Public Schools, Publication No. 249. (Mainly in connection with units of work, for example p. 207.) North Carolina Suggestions for Applying the Social Studies, Publication No. 217, pp. 69-84.

IV. Making the Requisition.

1. Each teacher should inventory the supplies on hand and make a request covering needs.
2. A committee of teachers with the principal should then assemble the teachers' requests and make up the order for the school.
3. If directed by the superintendent, fill in the order on a standard purchase order form.
4. The county or city superintendent must sign the purchase order.

V. The Use and Care of Instructional Supplies.

The teacher's part in the use and care of instructional supplies is:

1. To know what materials are essential for carrying on an acceptable program of school work.
2. To guide the children in the economical use and care of these materials so that they will realize the greatest possible benefit from them.
3. To plan jointly with the pupils for the routine use and distribution of materials.
4. To label boxes of materials to facilitate their use.
5. To provide shelving in some central space for such supplies as paper, crayon, chalk, water colors, so that the child can handle them.
6. To make a schedule for use of the various articles when there is not enough to supply each child enrolled in the school.

LIBRARIES

A Statement of Philosophy.

1. School libraries are a part of the school program that should be provided for every child.

2. Books for reference and research and for informational and recreational reading should be secured and housed in every school. A constantly changing book collection does not provide maximum service, but loans from a central collection adds to its variety.

3. Every elementary school with five or more teachers should

develop a central organized school library. Every high school should develop a central organized school library.

4. The book collection in school libraries should be composed of titles selected from approved lists and should approximate the subject distribution indicated in the State standards for accreditment.

5. The school budget should regularly include funds for the purchase of books and materials for the school libraries. A minimum of 50¢ per pupil is recommended.

6. School librarians should be employed on the same basis and with similar qualifications as other school teachers and should be subject to the local board of education precisely as in the case of regular teachers.

7. Any program for library service to schools from the public library should not take the place of school libraries developed as a part of the regular program of education by the local and State school program.

8. The development of school libraries is the responsibility of school authorities and should not be transferred to other agencies.

Recommendations Relative to Bookmobile Service to Schools.

1. Bookmobile service to schools should be based on an agreement between the school board and the public library.

2. Service to any school with five or more teachers may *not* count as meeting any part of book requirements for accrediting the school.

3. Loans from the bookmobile should preferably be made to the school library or to the individual teachers who circulate them to pupils. Bookmobile service to individual pupils apparently disrupts the school day, creates discipline problems, lacks supervision of selection, frequently promotes reading of mediocre books by high school groups, and seems to encourage careless handling of books.

4. School superintendents making financial agreement with the public library should know exactly what type service and the approximate number and type of books available. Information should be in writing. This agreement should not take the place of funds for school library service included in the school budget by the board of education.

5. Bookmobile service or package loans are especially useful to small schools (those with one to three teachers) where book resources will necessarily be very limited.

Books About Desirable Programs of School Library Service.

Coulbourn. *Administering the School Library.* 125p. 1942. Educational Publishers, Inc., Nashville, Tenn. $1.60.

Written by a school principal for administrators.

Douglas. *Teacher-Librarian's Handbook.* 136p. 1941. American Library Association, Chicago. $1.90.

Written primarily for the school librarian. Useful to the administrator, especially for jobbers, lists of equipment, library diagnostic tests, etc.

Fargo. *The Library in the school.* 3d edition. 552p. 1939. American Library Association, Chicago. $3.50. (New edition in preparation.)

Written primarily as a textbook for school librarians. Useful to the administrator for over-all view of school library service. Considered "the" book in the school library field.

Gardiner and Baisden. *Administering Library Service in the Elementary School.* 161p. 1941. American Library Association, Chicago. $2.25.

Useful to administrators, classroom teachers, and librarians in vitalizing the elementary school library program.

Mott and Baisden. *The Children's Book on How to Use Books and Libraries.* 207p. 1937. Charles Scribner's Sons, New York. $1.28.

Designed as a book for children on learning to use libraries. Highly useful to the teacher and administrator for his own information and as a teaching aid.

School Libraries for Today and Tomorrow: Functions and Standards. 43p. 1945. American Library Association, Chicago. $1.00.

National standards recommended for elementary and high school libraries. Gives qualitative and quantitative measures.

Walraven and Hall-Quest. *Library Guidance for Teachers.* 308p. 1941. John Wiley & Sons, New York. $2.75.

Written primarily for high school teachers. Suggestions more applicable in large high schools or to teachers using college or large public libraries.

In order to know the procedures recommended for North Carolina school libraries, every superintendent, principal, school librarian, and school library should have available a copy of the *North Carolina School Library Handbook,* Publication No. 197, State Department of Public Instruction, Raleigh, 25¢ each. This handbook lists names of some recommended dealers who handle library books or supplies, magazines, lists, standards for accreditment, and other pertinent data.

Purchasing Library Materials.

Schools which rent supplementary readers for elementary schools and textbooks for high schools from the Division of Textbooks, State Board of Education, and are on a self-supporting basis are eligible through the local superintendent to purchase library books with accumulated funds. The purchases are to be selected from the *Book List for the Elementary School Library* and the *Book List for the High School Library* issued by the Division of Textbooks. The superintendent of each eligible administrative unit is notified regarding funds for his unit. Books should be ordered as early in the year as possible.

The North Carolina Education Association acts as a library book jobber from which schools can order library books with local funds. The N.C.E.A. *Library Book Catalogue* is prepared each year by the State School Library Adviser as are the two lists for the Textbook Division. The titles on the two lists are essentially the same, although the high school list for the Textbook Division is less extensive than that of the N. C. E. A. The policy is to add the same new titles to the lists of the two organizations each year.

Approved lists for the selection of library books for accredited schools are named in the sections of this bulletin concerned with accredited schools Library books to be paid for with local funds can be ordered from any reliable jobber. Requests for bids frequently result in better discounts.

Schools are urged to investigate thoroughly and to get authoritative evaluations of any set of books before purchasing it. The library collection should be composed largely of individual titles rather than of sets of books. Sets which are recommended for the average school library are named in the library lists prepared by the State School Library Adviser.

Subscriptions to magazines should be placed through a reliable dealer, such as those named in the sections on accredited schools in this bulletin. Experience shows that many of these dealers give considerably better discounts if bids are asked and if the orders for the entire administrative unit are placed at one time.

The Division of Purchase and Contract has arranged contracts with certain dealers for the purchase of library supplies, such as cards, pockets, mending materials. Contracts have also been made for the rebinding of library books.

AUDIO-VISUAL AIDS

Some Questions and Answers on the Use of Scientific Aids to Learning.

The questions given here are selected from those most frequently asked at the audio-visual institutes and demonstrations held by the Division of Instructional Service. The answers given are only partially complete. For a more detailed discussion, see the references listed in the classified, annotated bibliography at the end of this section.

1. WHAT ARE AUDIO-VISUAL AIDS?

 They are those aids which enlist the sensory faculties of sight and hearing in making a more adequate interpretation of verbal communication. Audio-visual aids, therefore, supplement general instruction and are only tools for teaching.

 Most auditory and visual aids can be classified under the following headings:

 (1) The excursion (Field trip, school journey).

 (2) Realia (Objects, specimens, models, museums).

 (3) Dramatizations and demonstrations.

 (4) Television.

 (5) Sound motion pictures.

 (6) Silent motion pictures.

 (7) "Stills" (Photographs and other "flats", either printed or projected).

 (8) Sound reproductions (Radios, phonographs, central sound systems, transcriptions).

 (9) Graphic aids (Maps, charts, graphs, etc.).

2. WILL PROPER USE OF AUDIO-VISUAL AIDS ENABLE THE TEACHER TO "SPEED-UP" THE LEARNING PROCESS?

 Yes. All audio-visual aids are helpful. The sound motion picture, however, is the most versatile of present day teaching aids and is perhaps the most effective. The following quotations indicate how use of the motion picture has speeded up certain types of training:

 Col. M. E. Gillette, in charge of the production of visual aids for army training, made the following public statement: "These officers—whose business it is to know—assure me that training films, used intelligently in combination with normal

methods, can cut the time for training up to forty per cent in some cases." (*Business Screen*, p. 14, Issue 5, 1942.)

Prof. K. W. Ridell, in charge of War Training, Drexel Institute of Technology, Philadelphia, reports that the Office of Education training films have speeded up the training process by 33 per cent. (From a letter from Floyde E. Brooker, director of Visual Aids for War Training, U. S. Office of Education, August 19, 1943.)

The National Industrial Conference Board, 247 Park Ave., New York, conducted an objective survey of the use of visual aids in training in industries. The executives of 121 companies reported extensive use of visual aids in training programs. They reported that as a result of the use of visual aids, greater understanding is developed, and the training is simplified. One half of these executives estimated that the use of visual aids speeded up training by 25 per cent or more. (*Visual Aids in Industrial Training*, Studies in Personnel Policy, No. 49, National Industrial Conference Board, 247 Park Avenue, New York City.)

3. HOW DO AUDIO-VISUAL AIDS CONTRIBUTE TO LEARNING?
 (1) They increase initial learning.
 (2) They increase the permanency of learning.
 (3) They give meaning to other experiences
 (4) They help to overcome verbalism.
 (5) They help the slow learner.
 (6) They stimulate further learning activities.
 (7) They help to build vocabulary.

4. WHAT ARE THE FOUR ESSENTIALS OF A WELL-ROUNDED AUDIO-VISUAL PROGRAM?
 (1) An in-service education program, including workshops, in which all teachers are trained to use properly each type of audio-visual device.
 (2) The selection of materials and the integrating of them into the curriculum.
 (3) Provision of suitable projection space and equipment, such as opaque curtains and convenient electric outlets.
 (4) Adequate administrative, clerical and mechanical services, so as to insure the provision of materials for the teacher when needed.

5. WHAT DOES IT COST TO INSTALL AND OPERATE THE MORE IMPORTANT TYPES OF PROJECTION EQUIPMENT?

Prices will vary according to make, model, sizes, wattage, etc. Those given here are approximate prices of reliable equipment from reputable dealers. The cost of electrical current for operation is slight. Cost of films, etc., seldom exceeds $100 a year for a school.

16 mm. sound motion pictures—

Projector	$350.00-$400.00
Film rentals and transportation, yearly (Estimate based on regular use in union schools of 15-25 teachers.)	$ 60.00-$120.00
Screen, beaded, in case, on tripod	$ 10.00-$ 25.00
Blackout shades or curtains for classrooms	$ 15.00-$ 35.00
Annual supply of extra lamps and accessories	$ 10.00-$ 20.00
Installation of floor or wall socket where satisfactory electrical outlet is not already provided	$ 5.00-$ 10.00
Instructional films, 400 ft. reels, running time, 11 minutes, purchased for local library, each	$ 10.00-$ 45.00

35 mm. filmstrips, 2" x 2" slides, double-frame filmstrips—

Tri-purpose projector, 300 watts	$ 70.00
2" x 2" Kodachrome slides in cardboard Ready Mounts, each	$.50
2" x 2" Kodachrome slides in Binders, mounted between glass, each	$.60
Filmstrips, 25 to 65 frames on each strip, black and white	$ 1.50-$ 2.00
Micro projector	$ 60.00-$135.00
Opaque Projector (Combination type, with attachments for showing 3¼" x 4" lantern slides, 2" x 2" film slides as well as projection of opaque objects), case and attachments	$179.00

Lantern (For 3¼" x 4" glass slides)—

Lantern	$ 57.00-$ 70.00
Slides, black and white, individually selected, each	$.55

Rental of sets of slides in series, about 20 slides to a set, for one day. (User must pay return postage)..... $.60

6. SHOULD THE AVERAGE SCHOOL BUY A SOUND OR A SILENT MOTION PICTURE PROJECTOR?

It is recommended that the schools purchase sound projectors, although they are considerably more expensive than silent projectors Three important reasons for this recommendation are: (1) The sound film is a more powerful teaching tool, (2) Most of the best films now being produced are sound films and, therefore, cannot be shown on silent projectors, (3) Both sound and silent films may be shown on a sound projector.

Silent motion pictures are valuable tools for teaching. Small schools which do not feel justified in spending the greater sum necessary to install a sound projector may well afford the smaller cost of installing a silent projector. The 16 mm. size, whether sound or silent, is the only size recommended for public schools.

7. WHICH MAKE OF PROJECTOR SHOULD A SCHOOL BUY?

If school funds are used to make the purchase, choice is limited to machines on the State contract. Before being placed on contract all machines are carefully evaluated by competent judges.

8. WHO ARE SOME OF THE LEADING MANUFACTURERS OF 16 MM. SOUND MOTION PICTURE PROJECTORS?

Manufacturers are listed below alphabetically. Before entering into negotiations for purchase of a machine, see current State contract.

Ampro Corporation (Ampro)
Chicago 18, Illinois
DeVry Corporation (DeVry)
1111 Armitage Ave.
Chicago 14, Illinois
National Mineral Co. (Natco)
2628 N. Pulaski Road
Chicago, Illinois
Victor Animatograph Corporation (Victor)
Davenport, Iowa
Bell & Howell Co. (Filmosound)
7177 McCormick Road
Chicago 45, Illinois
Eastman Kodak Co. (Kodascope)
Rochester, N. Y.
Radio Corporation of America (RCA)
RCA Victor Division
Camden, N. J.

9. WHAT TYPE OF SCREEN IS RECOMMENDED FOR GENERAL SCHOOL USE?

Usually the beaded screen is best for school use. For the average classroom a screen 36 to 48 inches in width is sufficiently large. With a two inch focal length lens a projector 20 ft. from the screen will produce a picture 45 inches in width.

Larger screens for auditorium use may be made from white cloth stretched or carefully laced to a frame.

Small screens for classrooms may be made from Celotex or other kinds of fiber board by cutting to desired dimensions, framing, and painting with flat white paint.

10. IS IT NECESSARY TO HAVE A BOOTH TO SHOW MOTION PICTURES?

It is not necessary to have a booth to show 16 mm. film, as it is made from safety (acetate) stock.

11. WHAT ARE SOME SATISFACTORY WAYS OF DARKENING ROOMS?

Curtains or drapes are perhaps the most satisfactory means of darkening a room for projection. Denim, usually available in blue and sometimes available in other colors, is sufficiently opaque for use. It is comparatively sunfast and inexpensive. Enough for an average classroom costs about $15 The most economical installation is on a single overhead track on the ceiling about six inches out from the windows Only two curtains are needed to cover the entire span of windows. The two pieces should meet between window spaces. When not in use the sections are pulled back into the corners in loose folds where they are out of the way.

Blackout roller shades may be used provided they are installed with wood or metal channels to prevent light leakage around the edges.

In cases where a spare classroom is equipped for more or less permanent use as a projection room, windows may be painted with opaque paint.

For other suggestions see Noel's *Projecting Motion Pictures in the Classroom* which is published by the American Council on Education, 744 Jackson Place, Washington, D. C.

12. MUST ROOMS BE ABSOLUTELY DARK FOR PROJECTION OF SATISFACTORY PICTURES?

No. The darker the room, however, the better the projection. Normally the installation of blackout curtains or shades is all that is necessary to insure satisfactory projection. Motion pictures require a darker room than still pictures and colored pictures require more darkness than black-and-white.

Quite satisfactory pictures can be secured without darkening the room if a daylight view box which employs the principal of projection-from-the-rear is used. A projector of this type (similar to the movie "juke-box") is now being made commercially. (Mills Industries, 4100 Fullerton Avenue, Chicago.) A diagram of a home-made daylight view box for use with regular projectors is available form the Division of Instructional Service.

13. WHAT STANDARDS SHOULD BE USED IN EVALUATING FILMS FOR SCHOOL USE?

The following 100-point scale may be used in appraising films:

I. *Accuracy* 20 points

1. Of subject matter, sight, and sound.
2. Not obsolete.
3. Complete in presentation.
4. Freedom from bias or prejudice.
5. Emphasis on important elements.

II. *Appropriateness to grade level* 20 points

1. Scene length—pace.
2. Rate of speech.
3. Vocabulary.
4. Relative amount of detail.
5. Transition between scenes.
6. Choice and treatment of subject matter—is it presented coldly? emotionally? Does it build a mood or attitude?

III. *Application to local course of study* 20 points

IV. *Technical qualities* 20 points

1. Definition.
2. Points of reference for size.
3. Close-ups—should be numerous.
4. Sound—should be intelligible.
5. Good composition.
6. Good camera angles.

V. *General teaching value* 20 points

1. Good introduction.
2. Good conclusion.
3. Well organized.
4. Adequate repetition.
5. Ample illustration of important points.

14. SHOULD FREE FILMS BE SHOWN IN THE PUBLIC SCHOOLS?

Not until they have been previewed and approved by a committee of teachers or other responsible persons. Free films issued by commercial concerns are usually put out to advertise a certain product or to popularize certain goods or services. Some free films include propaganda. Great caution should be observed in the use of all free films. Those produced by governmental agencies are usually not objectionable and a few produced by commercial firms are of value in the instructional program. Teachers should be guided by evaluations made by responsible and impartial persons or should make their own evaluations.

15. SHOULD SCHOOL SCREENINGS OF MOTION PICTURES BE VIEWED BY ALL PUPILS?

Only in rare instances and for special occasions. Usually films should be shown only to regularly organized instructional groups under the direction of the teacher. When films are shown to large auditorium groups which contain pupils of widely varying interests, needs and abilities, much time can be wasted for many pupils.

Motion pictures should be used in the public schools mainly for instruction rather than entertainment. Nearly all films shown, therefore, should be correlated with the course of study and should be shown with a definite purpose in mind.

16. WHAT ARE SOME GOOD SOURCES OF INFORMATION ABOUT FILMS AND SLIDES?

There are numerous lists of films and slides issued by film and slide producers and other commercial concerns. The publications listed below are especially helpful in making selections. For further information about sources of information see the Audio-Visual Aids Bibliography below or more recent ones issued from time to time by the Division of Instructional Service.

Film and Slide Catalog. Free. Bureau of Visual Instruction, University of North Carolina, Chapel Hill, N. C.

Catalog. Free. Vocational Film Library, N. C. State College, Raleigh, N. C.

Educational Film Guide. Nine issues plus bound volume, $3.00. H. W. Wilson Co., New York City.

1000 and One—Blue Book of Non-Theatrical Films. 75¢. Educational Screen, 64 E. Lake Street, Chicago.

Selected Educational Motion Pictures. Washington: American Council on Education. 372 pages. 1942. $3.00. An encyclopedia containing essential information on approximately 500 16 mm. motion pictures evaluated in curriculum terms by competent judges.

Selected Films for American History and Problems by W. H. Hartley. New York: Bureau of Publications, Teachers College, Columbia University. 275 pages. 1940. $2.25, including 26 page supplement.

Directory of U. S. Government Films. Free. U. S. Office of Education, Washington, D. C.

Lists of Films and Slides. Free. From U. S. Departments of Agriculture, Interior, Labor, and Navy, and the Bureau of Mines in Washington, D. C.

17. HAVE DEPENDABLE TECHNIQUES FOR USING MOTION PICTURES BEEN DEVELOPED?

Yes. The following outline indicates desirable procedures:

I. Preparation.

Before class meets—

1. Teacher selects film, using *Selected Educational Motion Pictures* or other reliable source of information about films, and previews it so as to plan lesson.

2. Teacher checks to see that projector, screen, current, blackout arrangements, etc. are in readiness.

After class meets—

1. Pupils are prepared to see film.
2. Purposes are set up.
3. Leading questions are asked.

II. Presentation (Select ones appropriate).

1. Show entire film.
2. Show selected parts for intensive study.
3. Project "stills" (if projector permits) for study of details and to allow discussion of a particular picture in the film.
4. Run sound films silently to permit teacher or pupil commentary.

III. Follow-Up (Select ones appropriate).

1. Discuss film immediately.
2. Give brief test to see if pupils got adequate and correct information. Re-run part or all of film if necessary.
3. Summarize film.
4. Utilize complementary aids ("flats", filmstrips, etc.)
5. Organize class for further research in library or community.
6. Engage in other activities stimulated by film, as drawing, creative writing, dramatization.

18. WILL NOT THE RAPID ADVANCES BEING MADE IN THE FIELD OF TELEVISION SOON MAKE OTHER SCIENTIFIC AIDS TO LEARNING OBSOLETE?

Television is rapidly being introduced in metropolitan centers and will without a doubt be widely used in schools in the near future. Even after a widespread use of television is made, motion pictures and other scientific aids to learning will still be of value to schools. Seldom will television programs be given on a desired topic at a suitable time to fit in with teaching plans. The difficulty will be similar to that now encountered by teachers who want to use radio.

19. WHAT ARE THE POSSIBILITIES FOR A MORE EXTENSIVE USE OF RADIO IN THE SCHOOL PROGRAM?

Good. The introduction of F-M radio greatly increases the potential number of broadcasting stations. Also, certain wave bands in the extended scale have been set aside for school use. At this writing there is only one F-M station in North Carolina (Station WMIT of Winston-Salem whose transmitter is located on a peak near Mt. Mitchell), but there are numerous applications before the FCC and additional stations are expected in the near future.

20. HOW SHOULD TEACHERS GO ABOUT SELECTING PROGRAMS FOR CLASSROOM USE?

In selecting programs for use in the classroom teachers should consult the radio columns of the daily newspapers and the classified schedules published by periodicals dealing with radio. By request schools can obtain broadcasting schedules from CBS, NBC and MBS broadcasting systems For addresses see Part IV, Radio in Education, in the bibliography at the end of this section. From the programs available, only those of definite educational value should be selected. Among these are:

(1) Series of broadcasts prepared especially for school use.
(2) Special programs of music.
(3) Current events broadcasts.
(4) "At the scene" broadcasts of events of historical, scientific or other importance.
(5) Programs in observance of special days or weeks.
(6) Foreign broadcasts in language understandable by pupils.

21. WHAT PROCEDURE SHOULD BE FOLLOWED IN USING RADIO IN THE CLASSROOM?

The following procedure can be adapted to most teaching situations:

I. Make complete advance preparation.
 1. Secure manuals, leaflets and other helps that are prepared by program producers.
 2. Select good references pertaining to the content of the broadcast expected and guide pupils in using this material.

4. Provide a radio receiving set sufficiently large and mechanically perfect enough to provide the best reception.
5. Set up specific aims for each broadcast, such as information to be gained and attitudes and appreciations to be developed.

II. Create a listening atmosphere for the broadcast.
1. Select a room free from the objectionable noises of the street or playground.
2. Secure the undivided attention of every pupil.
3. Allow no interruptions.

III. Provide a follow-up period.
1. Discuss the material presented and the force of presentation.
2. Make local adaptations.
3. Encourage pupil participation in summarizing and general principles.
4. Check pupil learning and attitudes.

IV. Evaluate the program and suggest future activities and research.

22. WHERE MAY ONE FIND LISTS OF SELECTED PHONOGRAPH RECORDS RECOMMENDED FOR SCHOOL USE?

On pages 201-203 of this *Handbook*. Both musical and non-musical (famous speeches, drama, stories, foreign languages, etc.) lists are given. Supplements to these lists are issued from time to time by the Division of Instructional Service.

23. WHERE CAN MORE DETAILED INFORMATION ABOUT AUDIO-VISUAL AIDS BE SECURED?

From references listed in the annotated Audio-Visual Aids Bibliography below. This list of references has been carefully evaluated. New editions are issued from time to time by the Division of Instructional Service.

AUDIO-VISUAL AIDS BIBLIOGRAPHY

I. AUDIO-VISUAL AIDS AND THE SCHOOL CURRICULUM.
American Council on Education, 744 Jackson Place, Washington, D. C.

(1) *A School Uses Motion Pictures.* 1940. $1.00. Report on the use of motion pictures in the Tower Hill School.

(2) *Motion Pictures in a Modern Curriculum.* 1941. $1.00. Report on the use of films in the Santa Barbara Schools.

(3) *Motion Pictures for Postwar Education.* 1944. Report of the Commission on Motion Pictures in Education.

Brunstetter, M. R. *How to Use the Educational Sound Film.* Chicago: University of Chicago Press. 1937. $2.00. Describes effective techniques in using sound motion pictures in the schools. Helpful to administrators, supervisors, and teachers.

Fern, George H. and Robbins, Eldon B. *Teaching with Films.* Milwaukee: Bruce Publishing Co. 1946. 160 p. illus. $1.75. Discusses use of films in vocational and industrial training; motion pictures and film strips are included.

Hartley, W. H. *Selected Films for American History and Problems.* New York: Bureau of Publications, Teachers College, Columbia University. 275 pages. 1940. $2.25 including 26 page supplement. Suggestions for selection and use of social science films in the study of various aspects of American Civilization.

Hoban, Charles F., Jr. *Focus on Learning.* Prepared for the Committee on Motion Pictures in Learning. Washington: American Council on Education, 744 Jackson Place. 1942. $2.00.

Hoban, C. F., Hoban, C. F. Jr., and Zisman, S. B. *Visualizing the Curriculum.* New York: The Cordon Co. 1937. $2.75. One of the best general works on perceptual aids to learning. Defines principles and functions of visual aids and suggests techniques and procedures.

McKown, H. C. and Roberts, A. B. *Audio-Visual Aids to Instruction.* New York: McGraw-Hill Co. 1940. 380 pages illus. General discussion of aids to perceptual learning. Treats purposes and functions of various aids and procedures for use at different educational levels.

Use of Training Aids in the Armed Services. Bulletin 1945, No. 9. U. S. Office of Education. Apply Superintendent of Documents, Washington, D. C. 10¢.

Wittich, W. A. and Fowlkes, J. G. *Audio-Visual Paths to Learning.* New York: Harper & Bros. 1946. $2.00. Treats general classroom use of sound motion pictures.

II. ADMINISTRATION OF AUDIO-VISUAL AIDS.

American Council on Education, Washington, D. C.

(1) *Projecting Motion Pictures in the Classroom.* 1940. 50¢. Deals with the arrangement of physical conditions, selection of equipment, and training of personnel in the Santa Barbara Schools.

(2) *A Measure for Audio-Visual Programs in Schools.* 1944. 40¢. A discussion of current administrative problems with basic recommendations by a select group of audio-visual specialists.

Dent, Ellsworth C. *Audio-Visual Handbook.* Fifth Edition, 1946. Chicago: Society for Visual Education. $2.00. A very good source book; excellent descriptions of mechanical and other

types of audio-visual aids. Lists sources of materials and equipment and contains one section on construction of school buildings with audio-visual facilities.

How to Run a Film Library. Encyclopedia Britannica Films, 20 N. Wacker Drive, Chicago, Ill. 1945. 25 pages. 50¢. Helpful suggestions for storing and circulating films. Diagrams of storage facilities.

National Education Association. *Visual Education.* Washington: Department of Elementary School Principals, N. E. A. 1940. 50¢. An overview of visual education with articles dealing with specific types of sensory aids. Good list of suggested materials and bibliographies.

Visual Review. Issued annually. Free. Society for Visual Education, 100 E. Ohio Street, Chicago, Ill. Helpful articles on the use of audio-visual aids, especially the filmstrip.

III. STANDARD SOURCES OF INFORMATION ABOUT FILMS.

Audio-Visual Aids to Schools, Colleges, Churches, and Adult Study Groups. Catalog. Free. Chapel Hill: University of North Carolina, Educational Film Library and Lantern Slide Loan Service.

Catalog. Vocational Film Library, N. C. State College, Raleigh, N. C. Free.

Directory of U. S. Government Films. (F.S.A.—Formerly U. S. Film Service.) Apply to Superintendent of Documents, Washington, D. C. Lists many films on conservation and national problems

Educational Film Guide. A classified index of non-theatrical films. H. W. Wilson Co., New York. Nine monthly issues plus bound volume (June) $3.00.

Educational Screen. Monthly. 64 East Lake Street, Chicago, Ill. $3.00 a year. Free to members of the Department of Visual Instruction, N. E. A.

Film News. American Film Center, Inc., 45 Rockefeller Plaza, New York City. $1.00 a year. World wide news of documentary and educational motion pictures.

See and Hear. Monthly, September to May. Eau Claire, Wisconsin. $3.00 a year. A journal on audio-visual learning.

The News Letter. Monthly. Bureau of Educational Research, Ohio State University, Columbus, Ohio. Free.

U. S. Department of Commerce. Washington, D. C.

(1) *A Partial List of Catalogs and Sources of Non-Theatrical Films.* Mimeographed. Free.

(2) *Current Releases of Non-Theatrical Films and Film Notes.* $1.00 a year. 10¢ a copy.

IV. RADIO IN EDUCATION.

Abbot, Waldo. *Handbook of Broadcasting.* New York: McGraw-Hill Book Co., Inc. 2nd ed. 1941. $3.50. Discusses the possibilities of radio as a vocation as well as the technical aspects of the subject.

Barlett, Kenneth L. *How to Use Radio.* Washington: National Association of Broadcasters. 1938. Free. An outline of practical suggestions for the teacher and radio chairman.

Carlile, John S. *Production and Direction of Radio Programs.* New York: Prentice Hall, Inc. 1940. Text ed. $3.50.

Catalog of Recordings. New York University Film Library, 71 Washington Square South, New York 12, N. Y.

CBS Student Guide, Columbia Broadcasting System, 465 Madison Avenue, New York. Free. A monthly schedule of educational broadcasts.

Federal Radio Education Committee. U. S. Office of Education, Washington 25, D. C. Distributes "Service Bulletin of the Frec" and numerous reports resulting from research conducted in U. S. Office of Education, Ohio State University and Columbia University. Free folder on request.

Harrison, Margaret, *Radio in the Classroom.* New York: Prentice Hall. 1937. Discusses radio in education and suggests desirable uses and techniques.

Journal of the AER, Association of Education by Radio, 228 N. La Salle St., Chicago 1, Ill. $2.00 a year, 8 issues.

Levenson, William B. *Teaching Through Radio.* New York: Farrar and Rinehart, Inc. 1945. $3.00. Written by the director of Cleveland's school owned radio station. Presents basic information and techniques needed by teachers and school administrators.

National Association of Broadcasters. *How to Use Radio in the Classroom.* Washington: National Association of Broadcasters. 1939. Free. A booklet suggesting procedures for more effective classroom use of radio.

NBC Presents. National Broadcasting Company, RVA Building, New York. Free. Monthly listing of educational broadcasts.

Radio Bibliography. U. S. Office of Education, Washington 25, D. C. Up-to-date references. Free.

Radio Programs for School Listening. Free. U. S. Office of Education, Washington 25, D. C. A monthly listing of some 40 programs selected by an Advisory Committee.

Radio Script Catalog. U. S. Office of Education, Washington 25, D. C. Carefully annotated list of more than 1100 radio-scripts suitable for educational use and available on free loan through the Radio Script and Transcription Exchange.

Transcription Catalog. Federal Radio Education Committee, U. S. Office of Education, Washington 25, D. C. Contains descriptions of several hundred transcriptions suitable for educational use.

Woelfel, Norman and Tyler, I. Keith. *Radio and the School.* Yonkers, N. Y.: World Book Co. 1945. $2.12. Not just a textbook for teachers, but rather a general volume which examines all of the educational aspects of American radio.

V. OTHER TYPES OF AUDITORY AND VISUAL AIDS.

Atyeo, N. C. *The Excursion as a Teaching Technique.* New York: Bureau of Publications, Teachers College, Columbia University. A study of the school journey as an aid in learning.

Hamilton, C. E. *How to Make Handmade Lantern Slides.* Meadville, Pa.: Keystone View Co. 1939. 23 pages. Describes the process of making a slide on etched glass and cellophane.

National Education Association. *Materials of Instruction.* Eighth Yearbook. Washington: Department of Supervisors and Directors of Instructions. 1935. A study of the functions and place of materials in instruction. Sets up principles for selection and use.

Ramsey, Grace Fisher. *Educational Work in Museums of the U. S.* New York: H. W. Wilson Co. 1938. An excellent summary of the assistance rendered to schools by museums throughout the country.

Renner, G. T. "The Map in Modern Education" *Teachers College Record,* May 1939. One of the best articles on the use of maps in Education.

VI. ORGANIZATIONS FOR THE PROMOTION OF A WIDER AND MORE EFFECTIVE USE OF PERCEPTUAL AIDS TO LEARNING.

American Television Society. 271 Madison Ave., New York, N. Y.

Commission on Motion Pictures in Education, American Council on Education, 744 Jackson Place, Washington, D. C.

Committee on Scientific Aids to Learning. Apply for list of publications to Federal Radio Education Committee, U. S. Office of Education, Washington 25, D. C. These three are of special interest to public schools:

(1) *Central Sound Systems for Schools.*

(2) *Sound Recording Equipment for Schools.*

(3) *Broadcast Receivers and Phonographs for Classroom Use.*

Institute for Education by Radio, Ohio State University, Columbus, Ohio.

National Committee on Education by Radio, 1 Madison Ave., New York, N. Y.

Audio-Visual Department, U. S. Office of Education, Washington 25, D. C.

ORGANIZATION AND ADMINISTRATION

THE ELEMENTARY SCHOOL

Roster of Pupils for the Year.

A complete list of pupils who should attend school should be available at the opening of school This list may be compiled by consulting the previous year's school register, the census reports, and by a survey of the homes in the school community. Much of

this information can be assembled before the closing of schools of the preceding year. It is also essential to list the children who are to enter school in the fall for the first time.

Information about the Pupil

In addition to a complete list of pupils for the school opening, information concerning each pupil belonging to the school should be on file for reference and study. Such knowledge of the individual pupil is essential to the successful organization of the school if he is to profit most by the learning situations provided. The needed information about the individual pupil should include:

1. Clinic records for the pre-school child in which facts are assembled from physical examinations, from conferences with parents, and from observations by the teacher.

2. The cumulative record and other transfer record material on the progress of each pupil, including his personal history, physical condition, one or more mental test records, and his interests, should be a part of this information.

3. The pupils participation in conferences on work assignments; his responses to various types of tests and measurements; his reactions to suitable and profitable learning situations.

A Point of View.

In the most acceptable educational practice the larger unit organization provides for centers of interest out of which many subjects evolve in functional relationship. Whatever lesson unit or assignment is given, it should not be confined to the limitations of one school subject.

It is important for the pupils that one classroom teacher shall guide the class or group of children through the lesson situations for the entire school day. The child needs opportunity to organize his learnings from the different subjects, which is more difficult when the subjects are taught in isolated fashion by departmentalization or by subjects. In addition to this, it is important sometimes for a teacher to move up with one group of children to the succeeding grade.

The correlation of work or integration of subject matter is quite difficult and seldom attained when several different teachers must go into the classroom and work with the children in one of the various subject matter fields. (Publication No. 235, p. 151.)

The young child in the elementary school is not mature enough to be responsible to a great many different personalities, and to have to live under the different regimes as outlined by many different teacher programs.

Teachers are trained for the type of work in the grades which includes all basic school subjects

The emphasis in the elementary school grades, one through eight, is on individual and group instruction within the classroom and individual pupil progress, rather than on the teaching of separate subjects. This plan of work enables a classroom teacher to:

1. Take care of the wide range of differences in abilities and in interests within her room.
2. Adapt the curriculum to the capacities and abilities of the pupils, thereby more nearly insuring success of the pupil.
3. Help the pupil to see the relationships of subject matter and to develop the habit of organizing related ideas from many fields of learning.

As a general rule, any school would profit in selecting faculty personnel to consider some persons who have had training and ability in a special field, as art, music, or physical education. Such teachers should be regular teachers and should act as consultants to the regular classroom teachers. The special teacher is better qualified when she has knowledge of the curriculum as a whole. One of her duties is to lead and help other teachers and children in the field of her speciality.

Where special teachers are provided by local funds of the administrative unit, they need to be familiar with the content and scope of the curriculum so as to be aware of the possible contributions which their special fields make to the training of pupils

PRIMARY YEARS, 1-3

In the early grades the first part of the day has been found well suited to the major unit—social studies and related topics. The children come to school in the morning eager to show, or to talk about, what they have brought for the work of the day, and it seems well to take advantage of this interest and enthusiasm.

1. *Planning Period.* A general discussion of the work to be done and checking up on what the pupils have accomplished is necessary The pupils will make a definite list of things to be accomplished and then decide upon how they will go about getting

these things done. Certain members or committees of the group may assume the responsibility for definite assignments, for finding the answers to certain problems, or for planning and constructing some phase of the unit that is being carried on by the group. This pupil or committee should be responsible to the group for the accomplishment of the part of the work they agree to do.

2. *Activity Period.* This period may include activities in industrial and fine arts, making books, posters, clay work, making costumes for a play, excursions into the community—all kinds of hand work, or whatever is needed to carry out the activity or problem being considered by the group at this time. Or the child may search for information to answer questions that have arisen in arithmetic, history, language, and so on. The teacher works with individual pupils and with groups to explain information, to help clear up ideas and to stimulate thinking. During this period the teacher should make note of any points upon which drill is needed.

3. *Conference Period.* This is an important part of the major unit. At this time the child's responses, interests and needs are used. Problems that have arisen with any members of the group may be presented for discussion; it is a time for making assignments to individuals and groups. Questions will frequently arise about how to make things, why certain things failed, or where to get materials. It may be necessary for the group to consider needed rules governing the work period, or for the use of apparatus on the playground or in the gymnasium.

This period provides much opportunity for oral language, as children express themselves more freely about things in which they are interested. The teacher will keep close check on the things that grow out of this period. In getting this expression from the children, the teacher should work for good statements. The children should get the idea that the different statements help to make the complete story. They should be led to give the most important things in the story first. This leads to the idea of paragraph sense later on.

INTERMEDIATE YEARS, 4-8

While the work of the teachers of grades four through eight has consideration for the divisions of the major unit in the social studies as outlined for the lower grades, the change in the nature of subject content for the upper grades demands that the daily

schedule for work be more nearly designated to particular areas, with integration of the subjects.

Provision for planning, activity, and conference periods is applicable in any division of the school day in which children are purposefully engaged in a problem. In the lower grades this refers mainly to the major unit of the school day. The upper grades should utilize one period for the social studies field—geography, history and related interests. This period should not be thought of as the major part of the pupil's living, since equally valuable with the social studies is the child's work in language arts, natural science, the arts, and mathematical computation.

Daily-Weekly Schedules and Programs of Work.

The making of a daily-weekly schedule is an important task of every teacher. The daily schedule is flexible, if it meets the varying programs of work. But there will be enough stability to it to insure each child an equitable opportunity in a large number of subject areas, including the social studies, the arts, science and physical education. The kinds of programs or schedules used in a school are very important, as through them the school reflects its philosophy of education Provision is made for either a restricted or an enriched curriculum, for pupil planning and participation, or for mere recitation from a book. A good school program provides a place and time for the various activities to be undertaken; it encourages related and purposeful work; and at the same time, it must meet the legal requirements as to subjects taught.

In program making provision for the child's adjustment in social and emotional aspects is very important Plans for groups to work cooperatively, for sharing experiences, for finding compensations in one area for another that is lacking, for development in leadership, and for an overall feeling of security are important elements.

A suggested schedule should not be accepted ready made if the school improves the child's curiculum. The school day or school work should be so divided that the major units or topics will have long enough working time for the groups to participate in planning, studying, using the reference library, evaluating and summarizing A school day divided into a long list of isolated subjects upon which children study a few minutes and then recite is not in keeping with the present knowledge on how children can best develop. The emphasis should be placed on the development of the child through his participation in the best possible development of

a topic. Rarely can a topic be disposed of in one or more discussion periods. The program, therefore, must plan for a continuous study from day to day on a unit or topic, and for the integration of school subjects.

A good schedule of work has a daily and weekly approximate work time indicated, but this time may vary from day to day according to the demands. It provides for the various activities to be undertaken as a part of the life of the school. Ordinarily, periods are designated for certain purposes and frequently children should help to plan how these periods should be used. The ability to organize the work of the day and to adjust the schedule to the most immediate need is part of the growth of teachers.

Basic Principles which Determine the Type of Schedule Needed:

In the elementary schools, grades 1-8, the basis of organization is the grade or combination grade, whichever is needed to more or less equalize the numbers of pupils within the classrooms in a school

Within any so called "straight" grade there are three or more group levels of advancement of pupils that must be provided for through group instruction, particularly in the skill subjects of arithmetic, spelling and reading. *Group instruction requires differentiated content as well as method.*

Combination grades should be adjacent grades, not 2 and 4, 4 and 6, and the like. In combination grades, ignore the grade lines in providing work groups for skills of writing, reading, spelling, arithmetic. Group the children where they are.

It is not necessary nor advisable to try to work with every group in every skill each day. (See Publication No. 235. Mathematics. Paragraph 1. "A Point of View.")

The program for a week should show that the child has had experiences in all the subject areas and in many school activities.

There is an inter-relation of all subject matter. Though subjects, as language, reading or health, at times have separate periods, they are a part of every subject and every teacher's work. It is scarcely possible to confine all the work of any subject to a definite time allotment each day.

The work schedule should unify the two periods formerly given to history and geography into one period, the social studies. (See Publication No. 235, pp. 155-201.)

Provision for free time for pupils and groups should be made; no group should be "teacher directed" during the entire day, although teacher guidance is acceptable at all times.

The lunch period is a part of the regular school day. It should provide for desirable social development and eating habits. The environment should be conducive to this development.

Approximate Time	PRIMARY YEARS, 1-3
8:40- 9:00	Preparation for the work of the day: (1) Devotional exercises; (2) Check on attendance and health.
8:45- 9:45	Social studies topic and related work. Including work in the language arts, elementary science, health, related number work, or music as the unit or topic demands.
9:45-10:00	Mid-morning recess. Outdoor exercises, windows open (Children should not be encouraged to eat at this period. They need an early lunch period.)
10:00-11:30	Reading groups for instruction; or library period, free reading, story telling.
11:30-12:00	Supervised lunch.
12:00-12:30	Quiet period, rest, sleep, stories, music for listening (not singing) or poetry.
12:30- 1:30	Number work, writing or spelling (as needed).
1:30- 2:00	Physical education. It is suggested that physical education periods be staggered.
2:00- 3:00	Music, art, creative individual or group work.
3:00- 3:15	Pre-planning for next day.
3:15- 3:30	Preparation for leaving.
	INTERMEDIATE YEARS, 4-8
8:40- 9:00	Devotional. Check on attendance and health.
9:00- 9:45	Social studies. (See Publication No. 235, p. 15.) The topic will often indicate related activities in art, music, science and the language arts.
9:45-10:15	Health and Safety.
10:15-10:30	Morning recess.
10:30-12:00	Language arts. Reading or language groups, writing, spelling.
12:00-12:30	Supervised lunch in classroom or cafeteria.
12:30- 1:15	Library. Three times a week. Where a central library is available, the group with its teacher should go there for this period, otherwise maximum use should be made of the grade library in story telling, reference work, and free reading. Art. Two times a week.
1:15- 1:45	Physical education.
1:45- 2:30	Elementary science. Two times a week. The topic of this period will at times be a part of the central theme in the social studies. Music. Three times a week for directed work.
2:30- 3:30	Arithmetic groups.

THE HIGH SCHOOL

General Suggestions.

1. *Selecting a Curriculum.* Schools having from 3 to 6 teachers should select the curriculum best adapted to their needs and follow it. Once a particular curriculum is introduced a change to another should not be made without the approval of the county superintendent and notification of the Director of Instructional Service, State Department of Public Instruction

2. *Employment of Teachers.* Teachers should be employed in accordance with the particular subject combinations outlined in the "Suggested Organization" following each curriculum.

3. *Principal Recommends Teachers.* Teachers should be employed by the school committee only upon recommendation of the principal and approval of the superintendent. (See Sec. 115-354, Public School Laws.)

4. *Teaching Load.* Teachers should be assigned some duty every period in the day. The usual teaching load is five class periods plus one period devoted to an extra-curricular activity or to a study group.

5. *Delegate Direction Extra-Curricular Activities.* Principals should delegate the direction of extra-curricular activities to teachers, taking into account special interests of the teacher and qualities of leadership for the particular assignment.

6. *Substitute Teachers.* Substitute teachers should be engaged by the principal instead of the teachers for whom they substitute. The salary is determined in accordance with regulations adopted by the State Board of Education and the governing board of the administrative unit.

7. *Classrooms for Particular Subjects.* All of a particular subject should be taught in the same room. Supplementary materials should be supplied in order to give the child the apperceptive basis for study. The history room, for instance, should be well provided with maps, the English room with pictures of great writers, etc.

8. *When to Divide a Class.* Classes with an average daily attendance of over 35 should be taught in 2 or more sections.

9. *Pupil Load.* Four subjects constitute the normal load for a pupil, except that the required unit in Health and Physical Education may be carried as a fifth subject, though this is not re-

quired. Only pupils in the upper fifth of the class should be permitted to take more than the normal load. However, exception may be made in the case of partial unit courses, as band, glee club, chorus, art, etc.

10. *Credit for Extra-Curricular Activities.* If unit credit is to be allowed for any extra-curricular activity, it should be given in excess of the 16 basic units required for graduation.

11. *How to Study.* Whatever the type of school or organization, definite provision should be made for teaching pupils how to study and causing them to do more of it.

12. *Admission of Pupils from Other Schools.* Pupils should not be admitted from neighboring schools on "face value". The basis for admission should be a bonafide transcript or entrance examination. In estimating the value of a transcript, a unit's credit should be given on the basis of satisfactory classroom work. (For explanation of a "unit", see p. 55). Uniform transcript blanks furnished by the State may be had upon application to the superintendent.

13. *Elective Subjects.* In electing studies, pupils should consult the homeroom teacher, principal, and parents. For example, although geometry and foreign language are considered as elective subjects, pupils should be encouraged to take these subjects if they expect to enter colleges that require them.

14. *Registration of Pupils.* The best time to register pupils for the fall term is in the spring about a month before commencement. The registration card for each pupil should show the subjects he is now taking and the ones he elects, specifying the number of room and period each will come. Adjustments due to failure in particular subjects can be worked out in the summer.

15. *Graduation and College Entrance Requirements.* Acquaint the pupils with the requirements for graduation and with entrance requirements of higher institutions in which they are likely to be interested. A definite statement of graduation requirements accompanies each curriculum.

High School Summer School.

A summer school conducted by any city or county school administrative unit should be regarded as a part of the regular school program and operated accordingly. The work done in a summer school should be of the same high quality that characterizes the regular session.

The teacher or teachers should be properly certified and teach in the fields of their specialization.

The curriculum or subjects offered will depend upon the need or demand and the facilities available in the school.

A unit of credit in any subject is given for 180 hours of actual classroom study and discussion.

In the work of the regular session a subject must be pursued for one hour a day for 180 days and for the 180 hours a unit of one credit is allowed. This means that in a summer school of five days per week for six weeks, or 30 days, any subject for which credit is given should be studied six hours per day; $6 \times 30 = 180$. However, a minimum of five hours per day for 30 days, or 150 clock hours, may be accepted as a unit of work.

In the case of a make-up subject, one which a student has failed or has not completed, at least three hours per day, or 90 hours for the six weeks, must be devoted to the subject.

If a student attends a summer school that is conducted under private auspices, the superintendent or principal of a public high school may demand a written examination or test to be administered by him to determine the amount of credit which may be allowed in any subject or course.

Accreditation of Service Experiences.

Thousands of high school students entered the armed services. Some of them, unfortunately, did not graduate from high school. In many instances these students have had training for which they wish to secure credit in meeting requirements for high school graduation. This demand of the armed forces personnel for academic credit for educational achievements as well as military training and experiences prompts the suggestions which are made in this statement.

To determine the credit which should be allowed any student the following procedure should be observed:

I. *High School Credits.* Secure an official transcript of high school credits.

II. *Accreditation Service.* Use the accreditation service of the United States Armed Forces Institute, Madison 3, Wisconsin. (Referred to in this statement as USAFI or Institute.) The Institute obligates itself to provide high schools and colleges with accurate and as complete facts as are available which describe the military training and experience of service personnel, in order that

the educational institutions may properly evaluate the information in terms of academic credit and grant whatever credit they deem advisable.

The Accreditation Service assembles descriptions of the military training experience of service personnel and forwards them in the form of an official report to the school, college, employer, or individual designated by the applicant. It is the prerogative of civilian educational institutions to evaluate these records and they may or may not grant credit according to their individual rules and regulations. The Institute does not itself evaluate, recommend or grant credit.

III. *Unit of Credit.* In estimating units of credit a unit may be defined as 150 clock hours. Units of credit should not be confused with units of work which may be one or more weeks of work.

IV. *Military Experience.* It is suggested that a credit of one unit be allowed to any student who needs such credit for a year's service in the armed forces. This unit of credit for general military experience may be counted as a unit in social studies. If a student has had two or more years of military experience, he may be allowed not to exceed two units in meeting the requirement of sixteen (16) units for graduation. It is recommended that the colleges of the State accept two units of general credit for military experience when duly certified by school administrators.

V. *General Educational Development Test.* It is recommended that high schools grant diplomas to veterans only on the basis of the General Educational Development Test when the applicant or examinee attains a standard score of 35 or above on each of the five tests in the battery, or an average standard score of 45 on all five tests in the battery or a total score of 225.

Veterans who have not taken the General Educational Development Test before being discharged from service may still take the examination through the following plan provided by the Veterans' Testing Service of the American Council on Education, the University of Chicago, 6010 Dorchester Avenue, Chicago 37, Illinois.

VI. *Accreditation Policies for Peacetime Military Service.* Educators have recognized five types of education experience or growth in determining their accreditation policies. These are: (1) basic or recruit training, (2) service schools, (3) correspondence courses conducted by the United States Armed Forces Institute (USAFI), by cooperation colleges, and by the Marine

Corps and Coast Guard Institutes, (4) the off-duty class programs conducted in all of the services, and (5) educational maturity as measured by tests of genera educational development.

We make the following recommendations with respect to academic credit in each of these five categories.

(1) *Basic or recruit training.* Allow no credit for this training.

(2) *Service schools.* The recommendations for credit for service schools are contained in the *Guide to the Evaluation of Educational Experiences in the Armed Services*—grant credit in peacetime for educational experiences gained in service schools ,as recommended in the *Guide.*

(3) *Correspondence courses.* The correspondence courses offered by USAFI—grant credit as recommended in the *Guide.*

(4) *Off-duty class study*—grant credit for this class study, as recommended in the *Guide.*

(5) *Tests of General Educational Development.* Thees tests should NOT be administered or recognized as a measure of high school equivalence until after the class of which the man was a member has been graduated.

The accreditation policies of high schools should not permit men who leave the institution before graduation to obtain their diplomas before such time as they would have by normal attendance.

The General Educational Development Test will no longer be administered on an individual basis. Agencies for administering the GED Test to veterans only have been set up in the following centers:

Asheville—T. C. Roberson, Superintendent Buncombe County Schools.
Boone—Dr. H. R. Eggers, Appalachian State Teachers College.
Chapel Hill—Dr. W. D. Perry, Director Testing Service, University of North Carolina.
Charlotte—Dr. E. H. Garinger, Associate Supt. City Schools.
Dean T. E. Kinney, Johnson C. Smith University (For Negro veterans).
Culowhee—Dr. C. D. Killian, Western Carolina Teachers College.
Elizabeth City—J. G. McCracken, Superintendent City Schools.
Greensboro—Roger K. Williams, A.&T. College (For Negro veterans).
Greenville—J. H. Rose, Supt. City Schools.
Raleigh—J. O. Sanderson, Supt. City Schools.
Rocky Mount—D. S. Johnson, Principal High School.
Salisbury—D. J. Sessoms, Jr., Catawba College.
Wilmington—T. T. Hamilton, Principal New Hanover High School.
Wilson—S. G. Chappell, Supt. City Schools.

VII. *Handbook.* Every superintendent should secure a copy of the Handbook—"A Guide to the Evaluation of Educational Experiences in the Armed Services" This Handbook on Training and Experience in the Armed Services may be ordered from the Amer-

ican Council on Education, 363 Administration Building, Urbana, Illinois. The price is $5.00 complete edition. This Handbook should be made available to all high school principals.

VIII. *Admission to College by Examination.* If a student cannot meet requirements for graduation from high school on the basis outlined above, it is suggested that he attend a regular high school or institution where refresher courses are offered. The State Department of Public Instruction and the North Carolina College Conference have adopted a plan for admission of these and other veterans to college by examination. This examination will be given at the schools approved by the Veterans Administration and at the individual colleges. This testing program will include the following: a psychological test, an English test, a mathematics test, and a reading test. For full information about securing the tests and about administering and scoring them, write to Dr. W. D. Perry, Director University Testing Service, U. N. C., Chapel Hill, N. C.

IX. *Recapitulation.* A recapitulation of the steps in handling applications of students follows:

1. Give credit for all units earned in high school as evidenced by a transcript of the high school record.
2. Allow one or two units for general military experience or service. See IV, above.
3. Allow credit for training courses pursued in the armed services. See II and III, above.
4. Use General Educational Development Test results and College Entrance Examination results as indicated in V and VII, above.

Insist upon complete, accurate information. The issuance of a high school diploma is not a matter of sentiment; it is based upon well authenticated evidence of educational achievement.

Suggested Curricula, Organizations and Schedules.

Requirements for Graduation

For graduation from North Carolina public high schools, sixteen units, grades nine to twelve, as follows are required (For explanation, see p. 55):

English	4
Mathematics	1
Science (including Biology)	2
Social Studies (including U. S. History)	2
Physical and Health Education	1
Elective	6

Minimum Offerings

All schools should provide for offering the following: English, 4 units; Mathematics, 3 units; Science, 4 units; Social Studies including Geography, 5 units; Physical and Health Education, 1 unit; and Foreign Language, 2 units. Three and four teacher high schools may find it necessary to limit the offerings for a given year by combining third and fourth year students in certain subjects offered in alternate years.

Required and Elective Subjects By Years

FIRST YEAR

Required:

English I—Language and Literature
Mathematics I—Algebra or General Mathematics
Physical and Health Education

Electives, one or two:

Social Studies I—Citizenship
Science I—General Science
Home Economics I
Agriculture I
Industrial Arts
Foreign Language (In schools which offer more than one foreign language)
Other electives, as Music, Art, etc.

SECOND YEAR

Required:

English II—Language and Literature
Science II—Biology

Electives, two:

Mathematics II—Algebra or General Mathematics
General Business Training
Social Studies II—World History
Home Economics II
Agriculture II
Industrial Arts
Physical and Health Education
Foreign Language (In schools which offer more than one foreign language)
Other electives, as Music, Art, etc.

THIRD YEAR

Required:

English III—Language and Literature
Social Studies III—U. S. History

Electives, two:

Science III—Chemistry
Social Studies—Geography
Mathematics—Geometry
Home Economics III
Agriculture III

Foreign Language
Business Education (See course of study in *Business Education*)
Physical and Health Education
Trade and Industrial Education (Day Trade and Diversified Occupations)
Other electives, including courses in Dramatics, Speech, and Journalism.

FOURTH YEAR

Required:

English IV—Language and Literature

Electives, three:

Social Studies IV—Economics and Sociology or Problems of Democracy
Science IV—Physics
Agriculture IV
Foreign Language
Mathematics—Half or whole unit courses in Algebra, Geometry, or Trigonometry
Business Education, Office and Distributive Education (See course of study in *Business Education* and *A Course of Study for the High School Distributive Education Class*)
Physical and Health Education
Trade and Industrial Education (Day Trade and Diversified Occupations)
Other electives, including courses in Dramatics, Speech and Journalism.

Suggested Time Schedules

I. Hour Period (55 min. net)
(Lunch Period scheduled)
8:45- 8:50—Home Room Check
8:50- 9:50—First Period
9:50-10:50—Second Period
10:50-11:50—Third Period
11:50-12:50—Fourth Period
12:50- 1:50—Fifth Period
1:50- 2:30—Activity Period
2:30- 3:30—Sixth Period

II. Hour Period (55 min. net)
(With special lunch period)
8:30- 8:35—Home Room Check
8:35- 9:35—First Period
9:35-10:35—Second Period
10:35-11:35—Third Period
11:35-12:35—Fourth Period
12:35- 1:05—Lunch Period
1:05- 2:05—Fifth Period
2:05- 2:35—Activity Period
2:35- 3:35—Sixth Period

1. A THREE-TEACHER HIGH SCHOOL

A. Suggested Four-Year Curriculum

First Year	*Periods*	*Second Year*	*Periods*
English I	5	English II	5
Mathematics I—General Mathematics or Algebra	5	Mathematics II—Algebra	5
Social Studies I—Citizenship	5	Social Studies II—World	5
Science I—General	5	Science II—Biology	5
Physical Education and Health	5		
	25		20

Third Year	*Periods*	*Fourth Year*	*Periods*
English III	5	English IV	5
Social Studies III—United States	5	Social Studies IV—Economics and Sociology	5
Elective (two):		Science IV—Physics	5
Foreign Language I	5	Elective (one):	
Mathematics III—Geometry	5	Foreign Lanaguage II	5
Geography	5	Mathematics IV	5
Science III—Chemistry	5		
	20		20

NOTE: Chemistry and Physics may be offered in alterate years or Chemistry may be offered in place of Physics in the fourth year. Every school must offer either Chemistry or Physics.

B. SUGGESTED ORGANIZATION

Teacher A	*Periods Per Week*	*Teacher B*	*Periods Per Week*
English I	5	Social Studies I	5
English II	5	Social Studies II	5
English III	5	Social Studies III or IV	5
English IV	5		
Foreign Lanaguage I	5	Mathematics I	5
Foreign Language II	5	Mathematics 11	5
		Mathematics III or IV	5
	30		30

Teacher C	*Periods Per Week*
Science I	5
Science II	5
Science III or IV	5
Geography	5
Physical Education and Health	5
	25

One of the teachers employed should have specialized in English and foreign language; one in social studies and a second field.

A high school of this size should offer only two years of *one* foreign language. Where enrollments are small, the first and second year courses may be offered in alternate years, as follows: One year to second and third year students, the next to third and fourth year students.

Requirements for graduation: English, 4 units; Mathematics, 2 units; social studies, 4 units; science, 2 units; Physical Education and Health, 1 unit; Electives, 3 units. Total, 16 units.

C. SUGGESTED DAILY SCHEDULE

Periods	*Teacher A*	*Teacher B*	*Teacher C*
8:30—8:35	Home Room Check		
8:35—9:35	English III	Social Studies I	Science II
9:35—10:35	English II	Social Studies III or IV	Science I
10:35—11:35	English IV	Mathematics II	Physical and Health I
11:35—12:35	Foreign Language I	Mathematics I	Geography
12:35—1:05	Lunch Period		
1:05—2:05	English I	Social Studies II	Science III or IV
2:05—2:35	Activity Period		
2:35—3:35	Foreign Language II	Mathematics III or IV	

II. A FOUR-TEACHER HIGH SCHOOL

(Without Home Economics, Agriculture, or Industrial Arts)

A. Suggested Four-Year Curriculum

This curriculum is the same as that suggested for the three-teacher high school. The additional teacher is necessary to take care of the increased enrollment. The offering can be no larger, but the school may be organized somewhat differently.

First Year	*Periods*	*Second Year*	*Periods*
English I	5	English II	5
Mathematics I—General Mathematics or Algebra	5	Mathematics II—General Mathematics or Algebra	5
Social Studies I—Citizenship	5	Social Studies II—World History	5
Science I—General	5	Science II—Biology	5
Physical Education and Health	5		20
	25		

Third Year	*Periods*	*Fourth Year*	*Periods*
English III	5	English IV	5
Social Studies III—United States History	5	Social Studies IV—Economics and Sociology	5
Electives (two):		Science IV—Physics	5
Foreign Language I	5	Elective (one):	
Mathematics III—Geometry	5	Foreign LanguageII	5
Science III—Chemistry	5	Mathematics IV	5
	20		20

Note: Chemistry and Physics may be offered in alternate years or Chemistry may be offered in place of Physics in the fourth year.

B. Suggested Organization

Teacher A	*Periods Per Week*	*Teacher B*	*Periods Per Week*
English I	5	Social Studies I	5
English II	5	Social Studies II	5
English III	5	Social Studies III	5
English IV	5	Social Studies IV	5
Foreign Language I	5	Geography	5
Foreign Lanaguage II	5		25
	30		

Teacher C (Principal)	*Periods Per Week*	*Teacher D*	*Periods Per Week*
Mathematics I	5	Science I	5
Mathematics II	5	Science II	5
Mathematics III or IV	5	Science III	5
Physical Education and Health	5	Science IV	5
	20		20

Requirements for graduation:—English, 4units; Mathematics, 2 units; Social Studies, 4 units; Science, 2 units; Physical Education and Health, 1 unit; Electives, 3 units; Total, 16 units.

C. SUGGESTED DAILY SCHEDULE

Periods	*Teacher A*	*Teacher B*	*Teacher C*	*Teacher D*
8:30—8:35	Home Room			
8:35—9:35	English III	Social Studies II	Mathematics IV	Science I
9:35—10:35	English IV	Social Studies I	Mathematics III or IV	Science II
10:35—11:35	English II		Physical Education and Health I	Science III
11:35—12:35	Foreign Language II	Social Studies III	Mathematics I	
12:35—1:05	Lunch Period			
1:05—2:05	English 1	Geography	Mathematics II	Science IV
2:05—2:35	Activity Period			
2:35—3:35	Foreign Language I	Social Studies IV		

III. A FOUR-TEACHER HIGH SCHOOL

(Including Non-Vocational Home Economics)

A. SUGGESTED FOUR-YEAR CURRICULUM

First Year	*Periods*	*Second Year*	*Periods*
English I	5	English II	5
Mathematics I—General Mathematics or Algebra	5	Mathematics II—General Mathematics or Algebra	5
Social Studies I—Citenship	5	Science II—Biology	5
Home Economics I, or	5	Home Economics II, or	5
Science I—General	5	Social Studies II—World History	5
Physical Education and Health	5		
	25		20

Third Year	*Periods*	*Fourth Year*	*Periods*
English III	5	English IV	5
Social Studies III—United States History	5	Social Studies IV—Economics and Sociology	5
Electives (two):		Science IV—Physics	5
Foreign Language I	5	Elective (one):	
Mathematics III—Geometry	5	Foreign Lanaguage II	5
Geography	5	Mathematics IV	5
Science III—Chemistry	5		
	20		20

NOTE: Chemistry and Physics may be offered in Alternate years or Chemistry may be offered in place of Physics.

B. SUGGESTED ORGANIZATION

Teacher A	*Periods Per Week*	*Teacher B (Principal)*	*Periods Per Week*
English I	5	Social Studies I	5
English II	5	Social Studies II	5
English III	5	Social Studies III	5
English IV	5	Social Studies IV	5
Foreign Language 1	5		
Foreign Language 11	5		20
	30		

Teacher C	*Periods Per Week*	*Teacher D*	*Periods Per Week*
Mathematics I	5	Science I	5
Mathematics II	5	Science II	5
Mathematics III or IV	5	Science III or IV*	5
Geography	5	Home Economics I	5
Physical Education and Health	5	Home Economics II	5
	25		25

*To be given in alternate years.

Requirements for graduation: English, 4 units; Mathematics, 2 units; Foreign Language, 2 units; Social Studies, 3 units; Science, 2 units; Electives 3 units. Total, 16 units.

C. SUGGESTED DAILY SCHEDULE

Period	*Teacher A*	*Teacher B*	*Teacher C*	*Teacher D*
8:30—8:35	Home Room Check			
8:35—9:35	English I	Social Studies II	Mathematics III or IV	Home Economics III
9:35—10:35	Foreign Language I	Social Studies IV	Mathematics II	Home Economics I
10:35—11:35	English II		Physical, Education and Health I	Science III or IV
11:35—12:35	English IV	Social Studies III	Mathematics I	Science II
12:35—1:05	Lunch Period			
1:05—2:05	English III	Social Studies I		
2:05—2:35	Activity Period			
2:35—3:35	Foreign Language II		Geography	Science I

IV. A FIVE-TEACHER HIGH SCHOOL

(Without Home Economics, Agriculture, or Industrial Arts)

A. SUGGESTED FOUR-YEAR CURRICULUM

First Year	*Periods*
English I	5
Mathematics I—General Mathematics or Algebra	5
History I—Citizenship	5
Science I—General	5
or	
Latin I	5
Physical Education and Health	5
	25

Second Year	*Periods*
English II	5
*Mathematics II—General Mathematics or Algebra	5
Science II—Biology	5
History II—World	5
or	
LatinII	5
	20

Third Year	*Periods*
English III	5
History III—United States	5
Electives (two):	
Mathematics III—Geometry	5
Geography	5
Science III—Chemistry	5
Latin III	5
Second Foreign Language I	5
	20

Fourth Year	*Periods*
English IV	5
Electives (Three):	
History Iv—Economics and Sociology	5
Science IV—Physics	5
Mathematics IV	5
Latin IV	5
Second Foreign Language II	5
	20

*When Mathematics II has to be divided into two sections, one section may take General Business Training.

B. SUGGESTED ORGANIZATION

Teacher A	*Periods Per Week*
English II	5
English III	5
English IV	5
Foreign Language I	5
Foreign Language II	5
	25

Teacher B	*Periods Per Week*
Latin I	5
Latin II	5
Latin III or IV**	5
English I (2 sections)	10
	25

Teacher C	*Periods Per Week*
Social Studies I (2 sections)	10
Social Studies II	5
Social Studies III	5
Social Studies IV	5
Geography	5
	30

Teacher D (Principal)	*Periods Per Week*
Mathematics I (2 sections)	10
Mathematics II	5
Mathematics III or IV***	5
	20

**To be offered in alternate years.

Teacher E	*Periods Per Week*
Science I	5
Science II	5
Science III	5
Science IV	5
Physical Education and Health	5
	25

Principals and teachers should assist pupils in choosing electives. It is increasingly necessary in this curriculum, since the range of electives is wider than in smaller schools.

Requirements for graduation: English, 4 units; Mathematics, 2 units; Social Studies, 2 units; Science, 2 units; Physical Education and Health, 1 unit; Electives 5 units; Total, 16 units.

C. SUGGESTED DAILY SCHEDULE

Period	*Teacher A*	*Teacher B*	*Teacher C*	*Teacher D*	*Teacher E*
8:30—8:35			Home Room		
8:35—9:35	English III	Latin II	History IV	Mathematics I-A	Science I
9:35—10:35	English IV	Latin I	History III	Mathematics I-B	Science II
10:35—11:35	English II	Latin III or IV	Geography		Physical Education and Health
11:35—12:35	Foreign Language II		History II		Science III
12:35—1:05			Lunch Period		
1:05—2:05	Foreign Language 1	English I-B	History I-A	Mathematics II	Science IV
2:05—2:35			Activity Period		
2:35—3:35		English I-A	History I-B	Mathematics III orIV	

V. A FIVE-TEACHER HIGH SCHOOL
(Including Non-vocationzl Home Economics)

A. SUGGESTED FOUR-YEAR CURRICULUM

First Year	*Periods*	*Second Year*	*Periods*
English 1	5	English II	5
Mathematics I—General Mathematics or Algebra	5	*Mathematics II—General Mathematics or Algebra	5
Social Studies I—Citenship	5	Science II—Biology	5
Science I—General	5	Social Studies II—World History	5
or		or	
Home Economics I	5	Home Economics II	5
Physical Education and Health	5		
	25		20

Third Year	*Periods*	*Fourth Year*	*Periods*
English III	5	English IV	5
Social Studies III—United States History	5	Social Studies IV—Economics and Sociology	5
Electives (two):		Electives (two):	
Foreign Language I	5	Foreign Language II	5
Mathematics III—Geometry	5	Science IV—Physics	5
Geography	5	Mathematics IV	5
Science III—Chemistry	5		20
	20		

*When the Mathematics II class has to be divided into two sections, one section may take General Business Training.

B. SUGGESTED ORGANIZATION

Teacher A	*Periods Per Week*	*Teacher B*	*Periods Per Week*
English II	5	Mathematics I (2 sections)	10
English III	5	Mathematics II	5
English IV	5	Mathematics III or IV**	5
Foreign Language I	5	Science IV	5
Foreign Language II	5		
	25		25

Teacher C	*Periods Per Week*	*Teacher D (Principal)*	*Periods Per Week*
Geography	5	Social Studies I (2 sections)	10
Social Studies II	5	Social Studies III	5
English I (2 sections)	10	Social Studies IV	5
Physical Education and Health	5		
	25		20

Teacher E	*Periods Per Week*
Science I	5
Science II	5
Science III	5
Home Economics I	5
Home Economics II	5
	25

**Given in alternate years.

Requirements for graduation: English, 4 units; Mathematics, 1 unit; Social Studies, 3 units; Science, 2 units; Physical Education and Health, 1 unit; Electives, 5 units. Total, 16 units.

C. SUGGESTED DAILY SCHEDULE

Periods	*Teacher A*	*Teacher B*	*Teacher C*	*Teacher D*	*Teacher E*
8:30—8:35	Home Room Check				
8:35—9:35	English II	Science IV		Social Studies III	Science I
9:35—10:35	English IV	Mathematics I-B	Social Studies II	Social Studies I-A	Science III
10:—11:35	English III		Physical Education and Health I	Social Studies IV	Home Economics II
11:35—12:35	Foreign Language II	Mathematics I-A	Geography	Social Studies I-B	ScienceII
12:35—1:05			Lunch Period		
1:05—2:05		Mathematics III or IV	English I-A		Home Economics I
2:05—2:35			Activity Period		
2:35—3:35	Foreign Language I	Mathematics II	English I-B		

VI. A SIX-TEACHER HIGH SCHOOL
(Without Home Economics, Agriculture, or Industrial Arts)

A. Suggested Four-Year Curriculum

First Year	*Periods*	*Second Year*	*Periods*
English I	5	English II	5
Mathematics I—General Mathematics or Algebra	5	Science II—Biology	5
Social Studies I—Citizenship	5	Electives (two):	
Science I—General	5	Mathematics II—General	5
or		General Business Training	5
Latin I	5	Social Studies II—World History	5
Physical Education and Health	5	Latin II	5
	25		20

Third Year	*Periods*	*Fourth Year*	*Periods*
English III	5	English IV	5
Social Studies III—United States History	5	Electives (three):	
Electives (two):		Social Studies IV—Economics and Sociology	5
Mathematics III—Geometry	5	Science IV—Physics	5
Geography	5	Mathematics IV	5
Science III—Chemistry	5	Latin IV	5
Latin III	5	Second Foreign Language II	5
Second Foreign Language I	5		20
	20		

B. Suggested Organization

Teacher A	*Periods Per Week*	*Teacher B*	*Periods Per Week*
English I (2 sections)	10	English II (2 sections)	10
English III	5	Latin I	5
English IV	5	Latin II	5
Foreign Language I	5	Latin III or IV	5
Foreign Language II	5		25
	30		

Teacher C	*Periods Per Week*	*Teacher D*	*Periods Per Week*
Social Studies I-B	5	Mathematics I (2 sections)	10
Social Studies II	5	Mathematics II	5
Social Studies III	5	Mathematics III	5
Social Studies IV	5	Mathematics IV	5
Library (2 periods)	10		25
	30		

Teacher E	*Periods Per Week*	*Teacher F (Principal)*	*Periods Per Week*
Science I (2 sections)	10	Science IV	5
Science III	5	General Business Training	5
Science II (2 sections)	10	Geography	5
Physical Education and Health	5	Social Studies I-A	5
	30		20

Requirements for graduation: English, 4 units; Mathematics, 1 unit; Social Studies, 2 units; Science, 2 units; Physical Education and Health, 1 unit; Electives 6 units. Total, 16 units.

C. SUGGESTED DAILY SCHEDULE

Periods	*Teacher A*	*Teacher B*	*Teacher C*	*Teacher D*	*Teacher E*	*Teacher F*
8:30—8:35	Home Room					
8:35—9:35	English I-A	Latin II	Social Studies IV	Mathematics III	Science II-B	
9:35—10:35	English IV	Latin I	Social Studies III	Mathematics II	Science I-B	General Business Training
10:35—11:35	English III	English II-A	Library	Mathematics IV	Physiczl Education	and Health I
11:35—12:35	Foreign Language I		Library	Mathematics	Science II-A	Science IV
12:35—1:05	Lunch Period					
1:05—2:05	English I-B	Latin III or IV	Social Studies II	Mathematics I-A	Science I-A	I-A Geography
2:05—2:35	Activity Period					
2:35—3:35	Foreign Language II	English II-B	Social Studies I-B		Science III	Social Studies I-A

VII. A SIX-TEACHER HIGH SCHOOL
(With Vocational Home Economics and Agriculture)

A. Suggested Four-Year Curriculum

First Year	*Periods*	*Second Year*	*Periods*
English I	5	English 11	5
Mathematics—General Mathematics or Algebra	5	Science II—Biology	5
Social Studies I—Citizenship	5	Electives (two):	
Physical Education and Health	5	Social Studies IIWorld History	5
Elective (one):		Home Economics II	5
Science I—General	5	Agriculture II	7
Home Economics I	1	*Mathematics II—General Mathematics or Algebra	5
Agriculture I	7		
	25 to 27		20 to 22

Third Year	*Periods*	*Fourth Year*	*Periods*
English III	5	English IV	5
Social Studies III—United States History	5	Social Studies IV—Economics and Sociology	5
Electives (two):		Electives (two):	
Mathematics III—Geometry	5	Agriculture IV	7
Geography	5	Foreign Language II	5
Science III—Chemistry	5	Science IV—Physics	5
Science III—Chemistry	5	Mathematics IV	5
Agriculture III	7		
Foreign Language I	5		20 to 22
	20 to 22		

*When the Mathematics II Class requires two sections, one section may take General Business Training.

B. Suggested Organization

Teacher A	*Periods Per Week*	*Teacher B*	*Periods Per Week*
English I (2 sections)	10	Social Studies I (2 sections)	10
English III	5	Social Studies II	5
English IV	5	Social Studies III	5
Foreign Language I	5	Social Studies IV	5
Foreign Language II	5	English II	5
	30		30

Teacher C (Principal)	*Periods Per Week*	*Teacher D Teacher D*	*Periods Per Week*
Mathematics I (2 sections)	10	Science I	5
Mathematics II	5	Science II	5
Mathematics III or IV	5	Science III	5
	20	Science IV	5
		Geography	5
		Physical Education and Health	5
			30

Teacher E	*Periods Per Week*	*Teacher F*	*Periods Per Week*
Home Economics I (2 sections)	10	Agriculture I	7
Home Economics II	5	Agriculture 11	7
	15	Agriculture III and IV	7
			21

Requirements for graduation: English, 4 units; Mathematics, 1 unit; Social Studies, 3 units; Science, 2 units; Physical Education and Health, 1 unit; Electives, 5 units. Total, 16 units.

C. SUGGESTED DAILY SCHEDULE

Periods	*Teacher A*	*Teacher B*	*Teacher C*	*Teacher D*	*Teacher E*	*Teacher F*
8:30—8:35	Home Room Check					
8:35—9:35	English IV	Social Studies III	Mathematics II	Science I	Home Economics I-B	Agriculture I
9:35—10:35	Foreign Language II	Social Studies I-A	Mathematics I-B	Science II		Agriculture III and IV
10:35—11:35	Foreign Language I	Social Studies IV		Physical Education and Health I	Home Economics II	Agriculture II
11:35—12:35	EnglishIII	Social Studies II	Mathematics I-A	Science III	Home Economics I-B	Shop-Agriculture I and II Agriculture IV (2 days each)
12:35—1:05	Lunch Period					
1:05—2:05	English I-B	English II		Science IV		Shop-Agriculture III (2 days)
2:05—2:35	Activity Period					
2:35—3:35	English I-A	Social Studies I-B	Mathematics III or IV	Geography		

VIII. A SIX TEACHER HIGH SCHOOL
(With Business Education)

A. Suggested Four-Year Curriculum

First Year

English I
Mathematics I—General Mathematics or Algebra
Social Studies I—Citizenship
Science I—General
Physical Education and Health

Second Year

English II
Science II—Biology
Social Studies II—World History
Mathematics II—General Mathematics or Algebra
or
General Business Training

Third Year

English III
Social Studies III—United States History
Electives (two):
Foreign Language I
Mathematics III—Geometry
Science III—Chemistry
Geography
Typewriting I
Shorthand I or Bookkeeping I

Fourth Year

English IV
Social Studies IV—Economics and Sociology
Electives (two):
Foreign Language II
Science IV—Physics
Mathematics IV
Typewriting II or Secretarial Practice
Shorthand II or two of the following half unit courses:
Business Law, Salesmanship. Business Economic Problems

B. Suggested Organization

Teacher A	*Periods Per Week*
English 1 (2 sections)	10
English III	5
English IV	5
Foreign Language I	5
Foreign Lanuage II	5
	30

Teacher B	*Periods Per Week*
Typewriting I	5
Typewriting II	5
Shorthand I	5
Shorthand II	5
Bookkeeping I	5
Two half unit courses	5
	30

Teacher C	*Periods Per Week*
English II	5
Social Studies II	5
Social Studies III	5
Social Studies IV	5
Library (2 periods)	10
	30

Teacher D	*Periods Per Week*
Socia lStudies I-A	5
Mathematics I (2 sections)	10
Mathematics II	5
Mathematics III	5
Mathematics IV	5
	30

Teacher E	*Periods Per Week*
Science I (2 sections)	10
Science III	5
Science II (2 sections)	10
Physical Education and Health	5
	30

Teacher F (Principal)	*Periods Per Week*
Science IV	5
General Business Training	5
Geography	5
Social Studies I-B	5
	20

C. SUGGESTED DAILY SCHEDULE

Periods	*Teacher A*	*Teacher B*	*Teacher C*	*Teacher D*	*Teacher E*	*Teacher F*
5:30—8:35	Home Room					
8:35—9:35	English I-A	Shorthand I	Social Studies IV	Mathematics II	Science III	General Business Training
9:35—10:35	English IV	Typing I	English II	Mathematics III	Science I-A	Social Studies I-B
10:35—11:35	Foreign Language II	Business Law and Business Economics	Social Studies II	Mathematics IV	Physical and Health Education	
11:35—12:35	Foreign Language I	Bookeeping I	Library	Mathematics I-B	Science II-A	Science IV
12:35—1:05	Lunch Period					
1:05—2:05	English III	Typing II	Library	Social Studies I-A	Science I-B	
2:05—2:35	Activity Period					
2:35—3:35	English I-B	Shorthand II	Social Studies III	Mathematics I-A	Science II-B	Geography

IX. A NINE TEACHER HIGH SCHOOL

(Including Vocational Agriculture, Vocational Home Economics and Business Education.)

A. Suggested Four-Year Curriculum

First Year

English I
Mathematics I—General Mathematics or Algebra
Physical Education and Health
Electives (two):
Social Studies I—Citizenship
Science I—General
Agriculture I
Home Economics I

Second Year

English II
Science II—Biology
Electives (two):
Mathematics II—Algebra or General Mathematics
General Business Training
Social Studies II—World History
Agriculture II
Home Economics II

Third Year

English III
Social Studies III—U. S. History
Electives (two):
Foreign Language I
Agriculture III
Home Economics III
Mathematics III—Geometry
Geography
Science III—Chemistry

Fourth Year

English IV
Social Studies IV—Economics and Sociology
Electives (two):
Foreign Language II
Agriculture IV
Science IV—Physics
Mathematics IV

Business Education Curriculum

First and second years are the same as for the general curriculum, but should include General Business Training.

Third Year

English III
Social Studies III—U. S. History
Typewriting I
Shorthand I or Bookkeeping I

Fourth Year

English IV
Social Studies IV—Economics and Sociology
Typewriting II or Secretarial Practice
Shorthand II or two of the following half unit courses: Salesmanship, Business Law, Business Economic Problems.

B. Suggested Organization

Teacher A	*Periods Per Week*	*Teacher B*	*Periods Per Week*
Foreign Language I	5	English III-A	5
Foreign Language II	5	English III-B	5
English I-A	5	English IV	5
English I-B	5	Social Studies I-A	5
English II-A	5	Social Studies III-A	5
English II-B	5		25
	30		

Teacher C	*Periods Per Week*
Social Studies I-B	5
Social Studies II	5
Social Studies III-B	5
Social Studies IV	5
Library—2 periods	10
	30

Teacher D	*Periods Per Week*
Science I	5
Science II-A	5
Science II-B	5
Science III	5
Physical Education and Health I-A	5
Physical Education and Health I-B	5
	30

Teacher E	*Periods Per Week*
Mathematics I-A	5
Mathematics I-B	5
Mathematics II	5
Mathematics III	5
Mathematics IV	5
	25

Teacher F (Principal)	*Periods Per Week*
Science IV	5
General Business Training	5
Geography	5
	15

Teacher G	*Periods Per Week*
Typing I	5
Typing II	5
Shorthand I	5
Shorthand II	5
Bookkeeping I	5
Salesmanship, etc.	5
	30

Teacher H	*Periods Per Week*
Home Economics I	5
Home Economics II	5
Home Economics III	5
Conference	5
	20

Teacher I	*Periods Per Week*
Agriculture I	5
Agriculture II	5
Agriculture III	5
Agriculture IV	5
	20

C. SUGGESTED DAILY SCHEDULE

Period	*Teacher A*	*Teacher B*	*Teacher C*	*Teacher D*	*Teacher*
8:30—8:35	Home Room Checking Period				
8:35—9:35	Foreign Language II	Social Studies III-A	Social Studies III-B	Science I	Mathematics II
9:35—10:35	English I-B	English IV	Social Studies II	Science III	Mathematics I-A
10:35—11:35	English II-B		Social Studies IV	Physical Education and Health I-A	Mathematics I-B
11:35—12:35	Foreign Language I	English III-A	Social Studies I-B	Science II-A	Mathematics IV
12:35—1:05	Lunch Period				
1:05—2:05	English I-A	English III-B	Library	Science II-B	
2:05—2:35	Activity Period				
2:35—3:35	English II-A	Social Studies I-A	Library	Physical Education and Health I-B	Mathematics III

Periods	*Teacher F*	*Teacher G*	*Teacher H*	*Teacher I*
8:30—8:35	Home Room Checking Period			
8:35—9:35	General Business Training	Typing II	Home Economics I	Agriculture I
9:35—10:35		Shorthand I	Home Economics II	Agriculture II
10:35—11:35		Typing I	Home Economics III	Agriculture III
11:35—12:35		Bookkeeping I	Supervise Lunchroom	Agriculture IV
12:35—1:05	Lunch Period			
1:05—2:05	Science IV	Shorthand II	Conference	Shop I M. Tu. Shop III W.Th.
2:05—2:35				
2:35—3:35	Geography	Salesmandship etc.		Shop II M.Tu. Shop IV W.Th.

MEASURING PUPIL PROGRESS

Some Suggestions for Improving Pupil Progress

1. *Improve attendance.* If there is an attendance officer, work closely to keep children in school. Visit homes and work through the P. T. A. to improve attendance. Take a careful census of the community at the beginning of the school year and get all children enrolled at the very start.

2. *Help children who have been absent make up their losses.*

3. *Improve teaching.* Study the State bulletins and professional books. Take an active part in professional meetings. Experiment with new ways of teaching.

4. *Diagnose pupil difficulties and plan to overcome them.* Study standard test results. Test, teach, and re-test. Give remedial work where necessary. Work with small groups within the class. Provide for individual differences. Make curricular revisions and adaptations where needed to permit starting with the children where they are.

5. *Study the mental hygiene problems in the classroom.* Seek to overcome fear on the part of timid pupils and try to correct poor attitudes.

6. *Work cooperatively with the principal and with other teachers to develop better promotion policies and practices.* Begin work on this early in the school year. The following procedure is suggested:

 (1) Study the Cumulative Record of each pupil.

 (2) Determine such facts concerning pupil progress in the school as—

 a. Per cent of failure by grades.
 b. Per cent of failure by sex.
 c. Per cent of pupils who are over-age for their grade.
 d. Achievement of pupils in basic skills as measured by standarized tests.
 e. Number and causes of drop-outs and ages at which they occur.

 (3) Study theories of pupil progress. Are the progress policies in your school based upon a theory in keeping with your philosophy of education and the goals you are seeking to reach?

(4) Formulate a progress policy. Work with the principal and other teachers in preparing a statement of promotion policies which you propose to follow this year. See "Some Suggested Principles" below.

(5) Try the policy out for a year. Have the principal and a teacher in the next highest grade review your promotion list at the close of the year.

(6) Evaluate the effect of the policy and make revisions where necessary. Work cooperatively with others in your school to arrive at a fair appraisal. After careful study, suggest ways of improving the policies and practices with which you have experimented.

Some Suggesed Principles for Developing Promotion Policies and Practices.

1. Standards for promotion should be developed cooperatively in each school system by the teachers and administrators.

2. In developing standards, local groups should be guided by the objectives of education, the findings of research, and suggestions given in publications of the State Department of Public Instruction.

3. The teacher is best qualified to apply these standards for the pupils in her room. To eliminate personal bias, however, the teacher's promotions should be reviewed by a committee consisting of the teacher of the children in question, the teacher in the next highest grade, who will probably receive most of the children next year, and the principal of the school.

4. Before reaching a decision on a pupil's promotion, all the factors that may affect his future educational life and personal development should be given careful consideration. Special value should be attached to:
 a. The teacher's judgment as to the pupil's ability to work effectively with the group in the next higher grade.
 b. The pupil's achievement and intelligence as measured by standardized tests.
 c. The pupil's age and social development.
 d. The teacher's grades through the year.
 e. The child's mastery of fundamental skills, particularly the language skills.

5. When valid evidence indicates that a particular child may have to repeat one or more grades in the elementary school, it is generally better for the earlier grades to be repeated.

6. School standards should serve as valuable instruments for the appraisal of pupil progress; they should not, however, be regarded as sacred. Optimum child growth should be the chief objective of any pupil progress policy.

A TESTING PROGRAM

Practical Uses of Tests and Measurements.

All tests and measurements are mere tools of instruction and not goals within themselves. They should not be used as attainments set up for any one child or the school as a whole. The important functional use and greatest values in tests lie in their diagnostic and analytical treatment of the child's growth.

A periodic measurement of pupil progress is essential in making a fair appraisal of the school program. In order to adapt instruction to the needs of the pupil it is necessary for the modern public school to measure child growth along several lines:

1. Mental capacity or intelligence.

2. Mastery of basic tools of learning, as reading, writing, language and arithmetical processes.

3. Knowledge and functional use of important facts and concepts in such subjects as history, geography, and science.

4. Personality development, including all traits having to do with social behavior, such as attitudes, habits ,and appreciations.

5. Physical growth and motor ability.

Although all phases of human development cannot at present be measured satisfactorily, much progress has been made in this direction, and reliable tests of pupil attainment in many fields have been devised. In general, tests are used to measure intelligence and achievement.

Intelligence Tests.

Intelligence tests are helpful when the results are used as a guide to the pupil's program and his type of instruction. *They may be harmful when their findings are merely used to indicate weakness.*

To devise a school program fitted to the needs of boys and girls one should learn as much as possible about the pupils who make up the instructional groups. Intelligence tests indicate the level of difficulty for instruction and the amount of individual attention needed by each. Although these tests do not give a complete picture of the needs and capabilities of pupils, their use is helpful in understanding the child. Such tests should be administered about four times during the pupil's school life. It is recommended that intelligence tests be given to first, third, sixth and ninth grades, if administered at the end of the year; to the second, fourth, seventh and tenth grades if administered at the beginning of the year. In most cases it is feasible to use verbal group tests, preferably with all tests being in the same series. Intelligence test results should be used for the following purposes:

1. Discovering the mental ability of each child.
2. Discovering certain learning difficulties.
3. As an aid in determining the kind of instruction to follow.

Standardized or Formal Achievement Tests.

The standardized achievement test measures more comprehensively than teacher-made tests the extent to which pupils have mastered the basic tools of learning. They have the advantage of diagnostic profile charts which make possible rapid analysis of pupil difficulty. A testing program which does not result in efficient follow-up work is valueless. Achievement tests are tools for use in the improvement of instruction. Results of the tests given at the close of the previous school year should be used at the beginning of the year for follow-up work. Further testing at mid-term is desirable in measuring progress and in determining remedial teaching. Standardized tests should not be regarded as an abbreviated course of study on which instruction is focused, as this limits the curriculum and invalidates the results of the tests. Standardized tests are only a part of the measuring program which includes teacher-tests, mental tests, and directed observation. The following are acceptables uses to which standardized achievement tests may be put:

1. To diagnose pupil difficulty.
2. To determine the kind and amount of remedial teaching to be done.
3. To group pupils for remedial teaching.

4. To give an impersonal picture of the child for use in promotion and classification.

5. To discover strengths and weaknesses in the instructional program.

Informal or Teachers' Tests.

The most important feature of any good test is validity. A test which does not measure what it is supposed to measure gives results that are inaccurate in their measure of pupil achievement and in their indication of pupil needs. The modern school tends to place the emphasis on instruction in the development of desirable habits, skills, concepts, attitudes, and appreciations, and to stress the functional value of what has been learned as well as the subject matter itself. A continued systematic use of the factual knowledge type test generally used tends to focus teaching upon those things measured by such a test, therefore teacher-made tests for measuring the other significant outcomes of instruction are essential if the work of the pupil and the school is to be appraised fairly.

In constructing tests teachers should not confine test items to those of the *who, what, when, where, name* and *define* type. Such tests merely direct pupil study and classroom procedure to the memory of textbook material with the result that the curriculum loses much of its vitality and functional value. Teacher-made tests should cut across conventional subject matter lines and elicit the desired mental processes of thinking *through* and *about* facts in addition to learning to recite. In view of the foregoing it would seem that the essay-type examination can be readily adapted for the purpose of calling forth desired mental processes and measuring the functional use of facts learned.

The testing program during the year may take the following forms:

1. Essay type.
2. Judgment tests.
3. True-false statements.
4. Sentence completion.
5. Multiple-choice exercises.
6. Rearrangement of items.
7. Matching exercises.

In the final analysis the teacher-made tests supplement standardized achievement and intelligence tests. They should be administered throughout the year as occasion demands, and the results should be used:

1. To measure pupil achievement in subject matter fields not covered by standarized tests.
2. To discover strengths or weaknesses in instruction.
3. To direct pupils in their study.
4. To determine changes in attitudes and appreciations.
5. To determine the extent to which pupils have learned to use facts.
6. To determine to what extent the goals of a unit of study have been reached.

The large unit method of teaching especially calls for the intelligent construction and use of teacher-made tests of achievement. It should not be assumed that certain desirable outcomes of a unit have been realized without determining the actual results. In addition to adequate testing it is desirable for teachers using the unit method of instruction to keep a record of the progress of the class, in which weekly entries are made. Such a record promotes better planning and assures a more careful check on what understandings pupils are getting and what subject matter is being covered.

Tests and Where to Get Them.

As an aid to teachers and administrators a few tests are listed, as follows:

ELEMENTARY SCHOOL

INTELLIGENCE TESTS.

Engel, *Detroit First Grade Intelligence Test* (Grade 1). World.
Kuhlmann-Anderson, *Intelligence Tests*—Group Examination (Grades 1-12). Educational Test Bureau. Nashville, Tenn.
Otis, *Quick-Scoring Mental Ability Tests* (Grades 1-12). World.
Pintner, *General Ability Tests*, (Grades 1-12). World.
Pintner-Cunningham, *Primary Mental Test* (Grades 1-2). World.
Haggerty & Others, *National Intelligence Test* (Grades 3-12). World.
Sullivan & Others, *California Test of Mental Maturity* (Grades 1-12). Southern California School Book Depository, Los Angeles, Calif.
Terman, *Group Test of Mental Ability* (Grades 7-12). World.

ACHIEVEMENT

Batteries—

Metropolitan Achievement Tests. (Grades 1-8). World.
New Stanford Achievement Tests. (Grades 2-9). World.
Modern School Achievement Tests. Bureau of Publications, Teachers College, Columbia University, New York.
Progressive Achievement Tests. Southern California School Book Depository, Los Angeles, Calif.

Public School Achievement Tests. Public School Publishing Co. Bloomington, Ill.

Unit Scales of Attainment. Educational Test Bureau, Nashville, Tenn.

Iowa Every-Pupil Test of Basic Skills. Bureau of Educational Research and Service, State University of Iowa, Iowa City, Iowa.

Arithmetic—

Brueckner, *Diagnostic Arithmetic Tests* (Grades 3-8). Educational Publishers, Nashville 5, Tenn.

Schorling-Clark-Potter, *Hundred Problem Arithmetic Test.* (Grades 5-12). World.

Reading—

Detroit Reading Tests. (Grades 2-8). World.

Durell, *Analysis of Reading Difficulty.* (Grades 1-6). World.

Gates. *Primary Reading Tests* (Grades 1-2). Laidlaw.

Gates. *Silent Reading Tests.* (Grades 3-8). Laidlaw.

Gray. *Standardized Oral Reading Paragraphs.* Public School Pub. Co.

Iowa Silent Reading Tests. (Grades 4-12). World.

Sangren-Woody. *Reading Test.* (Grades 4-8). World.

Handwriting—

Thorndike. *Handwriting Scale.* Laidlaw.

Ayres. *Handwriting Scale.* Public School Pub. Co.

Freeman. *Diagnostic Handwriting Chart.* Houghton.

Courtis-Shaw. *Practice Tests in Handwriting.* World.

Language and Grammar—

Pressey, *Diagnostic Tests in English Composition.* Public School Pub. Co.

Wilson. *Language Error Test.* World.

Willing. *Composition Scale.* Public School Publishing Co.

Spelling—

Ayres. *Spelling Scale.* Public School Publishing Co.

Iowa Spelling Scale. Public School Publishing Co.

HIGH SCHOOL

INTELLIGENCE

American Council on Education. *Psychological Examination.* (High School Edition). The Council, Washington, D. C.

Otis. *Quick-Scoring Mental Ability Tests.* World.

Otis. *Self-Administering Tests of Mental Ability.* World.

Terman. *Group Test of Mental Ability.* World.

INTEREST INVENTORIES

Miner. *Analysis of Work Interests.* C. H. Stoelting, 424 N. Homan Ave., Chicago, Ill.

Strong. *Vocational Interest Blank.* Stanford University Press, Stanford University, California.

Garretson and Symond. *Interest Questionnaire for High School Students.* Bureau of Publications, Teachers College, New York City.

Lehman and Witty. *Play Questionnaire.* Ohio University, Athens, Ohio.

PERSONALITY

Bell. *Adjustment Inventory.* Stanford University Press.

Bernreuter. *Personality Inventory.* Stanford University Press.

Haggerty-Olson-Wickman. *Behavior Rating Scales.* World.

ACHIEVEMENT

General—

Myers-Ruch. *High School Progress Test.* World.

Iowa High School Content Examination. Bureau of Educational Research and Service, Extension Division, The State University of Iowa, Iowa City, Iowa.

Art—

McAdory. *Art Test.* Psychological Corporation, 522 Fifth Ave., New York, N. Y.

Meier-Seashore. *Art Judgment Test.* State University of Iowa, Iowa City, Iowa.

Commercial Subjects—

Blackstone. *Stenographic Proficiency Tests.* World.

Elwell-Fowlkes. *Bookkeeping Test.* World.

Thompson. *Business Practice Test.* World.

English—

Cross. *English Test.* World.

Hudelson. *Typical English Composition Ability Scale.* World.

Leonard. *Diagnostic Test in Punctuation and Capitalization.* World.

Cooperative Tests in English Usage, Literature, Acquaintance, and Literature Comprehension. Cooperative Test Service, 500 W. 116th St., New York City.

Latin—

Orleans-Solomon. *Latin Prognosis Test.* World.

White. *Latin Test.* World.

Cooperative Latin Test. Cooperative Test Service.

Mathematics—

Columbia Research Bureau Algebra Test. World.

Orleans. *Algebra Prognosis Test.* World.

Cooperative Tests in Algebra and General Mathematics. Cooperative Test Service.

Iowa Unit-Achievement Tests in First-Year Algebra. State University of Iowa, Iowa City, Iowa.

Columbia Research Bureau Plane Geometry Test. World.

Orleans. *Geometry Prognosis Test.* World.

Schorling-Sanford. *Achievement Tests in Plane Geometry.* State University of Iowa, Iowa City, Iowa.

Mechanical Aptitude—

Detroit. *Mechanical Aptitude Examination.* Psychological Corporation.

Minnesota. *Tests of Mechanical Abilities.* Psychological Corporation.

Stenquist. *Mechanical Aptitude Tests.* C. H. Stoelting.

Modern Foreign Language—

American Council Alpha and Beta Tests in French, German, and Spanish. World.

Columbia Research Bureau Tests in French, German, and Spanish. World.

Cooperative Tests in French, German, and Spanish. Cooperative Test Service.

Music—

Kwalwasser-Ruch. *Test of Musical Accomplishment.* State University of Iowa, Iowa City, Iowa.

Reading—
Iowa Silent Reading, Advanced Test. World.

Science—Biology—
Presson. *Biology Test.* World.
Ruch-Cossmann. *Biology Test.* World.
Cooperative Biology Test. Cooperative Test Service.

Chemistry—
Cooperative Chemistry Test. Cooperative Test Service.
Glenn-Welton. *Chemistry Achievement Test.* World.
Powers. *General Chemistry Test.* World.

General Science—
Ruch-Popenoe. *General Science Test.* World.
Cooperative General Science Test. Cooperative Test Service.

Physics—
Columbia Research Bureau Physics Test. World.
Cooperative Physics Test. Cooperative Test Service.

Social Studies—
American Council Test in European History. World.
Columbia Research Bureau American History Test. World.
Cooperative Service Tests in American, European, Ancient, Mediaeval, English, and World History. Cooperative Test Service.

PROFESSIONAL IMPROVEMENT

Organizing a Program of In-Service Training for an Adminstrative Unit.

The program for professional improvement in an administrative unit should be democratically developed. The abler and better trained teachers should be placed in positions of leadership.

Plans for the program should be initiated during the first week of school. Through the principals or otherwise each teacher should be given the opportunity to indicate professional needs, and to help in the selection of leaders. The organization should have for each study group at least the following officers and committee:

1. General chairman.
2. Executive secretary.
3. A materials committee with chairman and secretary selected by the group whose duty is, first to see that the professional library is built up, properly cataloged and prepared for distribution to teachers; second, to collect, edit and file committee reports with superintendent and the Division of Instructional Service, State Department of Public Instruction.

Workshops.

It is suggested that plans be made for workshop type of meetings. These meetings should not be of the traditional teacher-meeting type; they should be meetings in which real work of a practical sort is carried on in groups of convenient size in terms of teachers' needs.

Slogan: Participation by *every* principal and *every* teacher in one or more workshop groups in keeping with interests and needs.

Administration of Workshops

1. Administrators and teachers will find it necessary to make definite plans for conducting this workshop type of in-service training of teachers. The class should meet for a session of two or three hours, two or three times a month, for two or three months. Such a plan will make the effects cumulative.
2. The best person available should be selected as director of any group. If no satisfactory person is available from the regular staff in a city or county administrative unit, it might be possible to secure some outside person to give direction, particularly in some of the special fields.
3. A place well equipped and well supplied with materials should be made available for each group.
4. Groups may meet in the afternoon, evening or on Saturdays as administrators and teachers may decide.

Suggested Workshops

Tentative suggestions are made below for organizing and conducting workshop activities. More detailed suggestions will be sent on request after the areas have been selected and the names of the leaders reported to the State Department of Public Instruction.

1. *Language Arts.* Publication of the new Language Arts bulletin, Publication No. 249, will make an excellent workshop in this field possible. It is strongly suggested that a workshop in some phase of the language arts be provided in every administrative unit. Detailed outline for language arts workshops will be sent upon request.

2. *Nutrition.* The importance of nutrition in a health program suggests the desirability of setting up workshops in this subject. A special outline for workshops on nutrition has been prepared and will be made available on request.

3. *Arithmetic.* There are some sixth, seventh and eighth grade teachers, who, no doubt, would like to study the actual content of the arithmetic to be taught during the ensuing year. If so, these teachers should be grouped for this study of arithmetic under the best mathematics teacher who can be found in the school administrative unit. After a brief discussion of aims and objectives in the teaching of arithmetic they should spend their time on the actual content of the State course of study (Publication No. 235, pages 114-154) and the textbooks to be used in grades which they will teach.

4. *Industrial Arts.* Many teachers would like to have some experiences in actual shop work which will be helpful in carrying on desirable activities in the elementary school. These teachers should be given an opportunity to do some work in a shop, actually hammering, sawing, nailing and painting. It is suggested that such a group of teachers be directed by the best teacher of industrial arts available or the best teacher of agriculture who knows how to direct shop activities. The best agriculture shop in a county administrative unit could be used for this purpose.

5. *Art.* Many teachers have had limited training in the use of art materials. Some teachers do not know the feel of finger paint. Also, they are limited in their knowledge of the best use to be made of water colors and other art materials. Such teachers should be given an opportunity to use finger paint and other materials under the direction of the teacher best trained or experienced in art who is available. This actual participation on the teacher's part is not a matter of theory as to the teaching of art. It is a matter of doing. (See Publication No. 235, pages 225-237, and Publication No. 238, Art bulletin.)

6. *Physical Education.* Many teachers have had limited training in physical education and, therefore, lack confidence in carrying on such activities. Some teachers do not know the rhythms, plays and games which are essential in physical education activities in the elementary school. It is suggested that such teachers be grouped and that an op-

portunity be given for them to learn the rhythms which they will need in their classes. The best physical education person available should be secured to teach the rhythms and other features of the program which will make the work successful. (See Publication No. 235, pages 212-224; also, Publication No. 219, Physical and Health Education.)

7. *Music.* It is impossible to have a special teacher of music in every school system. Every teacher in elementary schools should be able to teach music, to some extent, in her grade. Some teachers do not know the songs which should be taught and cannot teach them. It is suggested that such teachers be grouped together in a class under the direction of the best music teacher available and that these teachers be taught the actual songs which they will need for Thanksgiving, Christmas, other special days, and a few folk songs which all children should know. The best equipped music room available should be used for this purpose. (See Publication No. 239, Music bulletin.)

8. *Science.* Science should be emphasized, not only in high school, but in the elementary school. Many teachers have had limited training in this field. They do not know the techniques of laboratory work. Such teachers should be given an opportunity to make some experiments in the best equipped science laboratory in the school unit under the direction of the most skillful science teacher to be found. (See Publication No. 235, pages 202-211; also, Publication No. 227, Science bulletin.)

9. *Writing.* Some teachers, no doubt, would like to have instruction about how to write better themselves and how to secure better writing on the part of their students. These teachers should be given an opportunity to study and improve their own handwriting in order that they may teach pupils how to write. Actual practice on the part of these teachers under the direction of a teacher who knows how to write would be of great value to them. In addition to what may be done in the workshop some of the teachers may wish to continue their study until they have secured certificates of proficiency from the publishers of the State adopted textbooks in writing. (See Publication No. 235, sections on Handwriting. For detailed outline for Handwriting Workshop request mimeographed bulletin.)

10. *Library.* Library materials will be effectively used in the teaching program to the extent that teachers are familiar with the materials and know how to use them. Opportunity to read and examine books in the best equipped school library in the administrative unit would probably be welcomed by many teachers in the group. The best librarian or teacher-librarian could be called upon to give help and direction in the use of the library, such as interpretation of the Dewey decimal system, the use of the Rue *Subject Indexes* in finding references to materials related to class work, the use of encyclopedias and other special reference books, the planning of library instruction to be given to children, and the planning of activities to be carried on in library periods during the year. As books are read and examined, notes of books to be purchased might be made. (See Publication No. 235, Library; also, Publication No. 197, Library bulletin.)

11. *North Carolina.* Some fifth and eighth grade and perhaps some high school teachers may wish to study about North Carolina—historical, geographic, economic, educational, social; to construct maps and charts; to study source material; and to plan for various helpful activities. (See Publication No. 235, Section on North Carolina; also, Publication No. 217, North Carolina bulletin.)

12. *Children's Literature.* Many teachers of elementary pupils should know the prose and poetry which children like and need. The literature in the basal and supplementary texts and in the library should be studied. A study of this topic, with abundant use of available material for reading, studying and interpreting should be conducted under the direction of the best teacher available. Helpful bibliographies may be secured from the State Department of Public Instruction.

13. *Auditory and Visual Aids.* Teachers should know something about availability and use of various aids of the auditory and visual type. A study of radio, motion pictures, maps, charts and other equipment could be carried on under the direction of a well-equipped social studies or science teacher, or other person. (See Publication No. 235, pages 199-201.)

14. *Speech.* Many teachers in both elementary and secondary schools will be interested in a workshop in speech, if a competent leader can be secured. Further assistance in plan-

ning workshops in speech may be secured from the State Department of Public Instruction.

15. *Other Subjects.* Selection and planning for other subjects in terms of demands, interests and needs may well be considered. High school teachers may be grouped on the basis of their work, since there is considerable degree of specialization in high school teaching. Teachers of mathematics, science, English, social studies, foreign language and special subjects may wish to organize their own workshop groups. This may be done under the direction of the most skillful high school principal or teacher, or college teacher, available for this purpose.

16. *Evaluative Criteria.* As a professional study high school principals and teachers will find it stimulating to make an evaluation of their work and their school by using the Evaluative Criteria worked out in the Cooperative Study of Secondary School Standards. The use of the Evaluative Criteria will enable principals and teachers to see where emphasis should be placed in the various aspects of high school work. Write to Division of Instructional Service, State Department of Public Instruction for order blanks and other information.

Methods of Conducting Professional Meetings.

1. **The Panel Discussion.**

In this type of program different people from institutions or fields having widely different points of view present briefly their special angle on a given problem. Following this they question and challenge each other. And finally, make a summary of the discussions.

HOW TO HOLD A PANEL CONFERENCE

1. The panel method is the simplest of conference methods, consisting of: (a) A chairman who directs the program and discussion, and who sums up the conclusions of the group; (b) an informal discussion by several members of the issues raised; (c) questions addressed to panel members from the audience and from each other.

2. Points to be observed are: (a) Select the conferees who are particularly interested in the questions, and who feel responsible for the success of the conference; (b) limit the

active participants to prevent lagging and diversion from the issues; (c) limit each speaker to prevent monopolizing of the time; (d) hold a meeting preliminary to the conference to choose a chairman and to assign individual parts in the procedure.

3. Order of procedure is: (a) Chairman calls the meeting to order; (b) states the question to be considered as briefly and concisely as possible; (c) emphasizes the need for keeping the main issue in mind, for open-mindedness and clear thinking, and the desirability of reaching cooperatively a decision agreeable to all; (d) sets up the time limits; (e) presents the participants; (f) mentions the desired ends; (g) focuses thought through stimulating questions; (h) calls on members for points of view.

The panel members express themselves in statements and questions, being kept to the point by the chairman when necessary. A few minutes intermission is given for a mental and physical relaxation. The chairman finds points of agreement and disagreement and states the final results. The results are then written, giving the points at issue and a summary of worthwhile contributions.

2. **The Round-Table Discussion.**

This is a similar technique, but as a rule each person comes with a problem on which he makes informal comments.

3. **The Forum.**

The forum movement in this country is rapidly gaining momentum and approval. Many thoughtful persons, educators and laymen, believe that forum discussion has real value as a means of civic education.

For those who are interested in forums the following bulletins are suggested:

Studebaker, Sheets and Williams. *Forums for Young People.* Bulletin, 1937, No. 25. Office of Education, Department of the Interior, Washington, D. C. 15 cents.

A study of problems and plans involved in providing forum discussions for high school and college students and for young people in the community.

Studebaker and Williams. *Choosing Our Way, a Study of America's Forums.* Bulletin, 1937, Miscellany No. 1. Office of Education, Department of the Interior, Washington, D. C. 35 cents.

A handbook for educational administrators interested in organizing and operating adult forums. Reports the work of forum demonstration centers.

Chancellor and Williams. *Printed Page and the Public Platform.* Bulletin, 1937, No. 27. Office of Education, Department of the Interior, Washington, D. C. 20 cents.

Of interest to librarians and forum leaders because it deals with library and the adult forum.

The following is taken from *Forums for Young People,* pages 1-3:

"WHAT IS A FORUM?

"In this publication we use the term 'forum' to denote an organized process of free discussion of public affairs. It refers not only to a method or technique of learning well known to pedagogy as 'socialized recitation' or 'class discussion', but to a body of subject matter as well. In addition, it is descriptive of special organizations to achieve the discussion of public affairs. This generalized concepton may be clarified by listing the important aspects of a forum.

Meetings

"1. The forum, used in the sense of an organized process, is a program consisting of a series of meetings. Each meeting may be called a forum, but all of the meetings put together may be called the forum. The term is used here to refer primarily to the program and not to an individual meeting.

Subjects

"2. The forum program is based very largely upon those public questions which agitate the public mind. The field of subject-matter covers those issues and current problems in modern society which are up for public consideration and decision at any particular time. The forum is not simply a method of dealing with all problems requiring understanding.

Participation

"3. The forum program is further based upon real audience participation through free discussion. Regardless of the device used to introduce and present the subject, a major emphasis is placed on the free experession of the members of the group through questions to the speaker, (if there is one) to others in the audience, and through the presentation of comments or points of view.

Preparation

"4. The forum program also requires preparation on the topics discussed. Special speakers, debaters, or panels may be especially prepared to develop the discussions. Ordinarily a meeting to discuss some phase of public affairs which does not rest on the careful preparation of some one or more persons results in a 'talk fest' rather than a 'forum'.

Leadership

"5. The forum program needs the leadership of a competent person, skilled in promoting fruitful discussion and in guiding group thinking. The participation of the members of the forum group in planning the meetings and selecting the topics for discussion is an objective of a competent leader."

4. **The Lecture.**

Occasionally it is desirable to secure a specialist to discuss with teachers a subject or problem which is being studied by them. The Department of Public Instruction will be glad to cooperate by sending a member of the staff or by assisting interested groups in securing professional help from other sources.

List of Professional Texts and Magazines.

Those who are familiar with larger bibliographies in the current State courses of study bulletins from which many of these selections are made, will do well to review them also in selecting professional readings.

It is urged that groups of teachers within a school take time at intervals during the year to share their best current readings. In doing this, it is obviously necessary to work together in the selection of books for the sake of expenditure, choices and time. It is hoped that the following selections will be helpful to individuals and to study groups.

I. GENERAL

Aiken, W. M. THE STORY OF THE EIGHT YEAR STUDY. 1942. Harper. N. Y. $1.75.

Barzun, Jacques. TEACHER IN AMERICA. 1945. Little. N. Y. $3.00.

Bowen, Genevieve. LIVING AND LEARNING IN A RURAL SCHOOL. 1944. Macmillan, N. Y. $3.00.

Brink. DIRECTING STUDY ACTIVITIES IN SECONDARY SCHOOLS. 1937. Doubleday-Doran. Garden City, N. Y. $3.00.

Burton, W. H. THE GUIDANCE OF LEARNING ACTIVITIES. 1944. Appleton, N. Y. $3.75.

Caswell, Hollis L. EDUCATION IN THE ELEMENTARY SCHOOL. 1942. American, N. Y. $2.50.

Counts, George S. EDUCATION AND THE PROMISE OF AMERICA. 1945. Bureau of Publications, Columbia Univ., N. Y. $1.50.

De Lima, Agnes and Staff. THE LITTLE RED SCHOOL HOUSE. 1942. Macmillan, N. Y. $3.50.

Elsbree, Willard S. PUPIL PROGRESS IN THE ELEMENTARY SCHOOL (Practical Suggestions for Teaching Series.) 1943. Bureau of Publications, Columbia Univ., N. Y. 60¢.

Featherstone. TEACHING THE SLOW LEARNER. 1941. Bureau of Publications, Columbia University, N. Y. 60¢.

Gesell, Arnold. THE FIRST FIVE YEARS OF LIFE. (A Guide to the Study of the Pre-School Child.) 1943. Harpers, N. Y. $3.50.

Harvard Committee. GENERAL EDUCATION IN A FREE SOCIETY. 1945. Harvard Univ. Press, Cambridge, Mass. $2.50.

Hildreth. LEARNING THE THREE R'S. 1936. Educational Publishers. Indianapolis. $3.00.

Jacobsen and Reavis. DUTIES OF SCHOOL PRINCIPALS. 1941. Prentice-Hall, N. Y. $3.50.

Koos and Others. ADMINISTERING THE SECONDARY SCHOOL. 1940. American, N. Y. $3.25.

Lane. THE PRINCIPAL IN THE MODERN ELEMENTARY SCHOOL. 1944. Houghton. $2.50.

Lane. THE TEACHER IN THE MODERN ELEMENTARY SCHOOL. 1941. Houghton-Mifflin. $2.40.

Lee and Lee. THE CHILD AND HIS CURRICULUM. 1940. D. Appleton-Century, N. Y. $2.50.

Leonard, Miles, Van der Kar. THE CHILD AT HOME AND SCHOOL. 1942. American, N. Y. $3.60.

Macomber. GUIDING CHILD DEVELOPMENT IN THE ELEMENTARY SCHOOL. 1941. American, N. Y. $2.50.

McKown. AUDIO-VISUAL AIDS TO INSTRUCTION. 1940. McGraw-Hill, N. Y. $3.00.

Murray and Bathurst. CREATIVE WAYS FOR CHILDREN'S PROGRAMS. 1938. Silver, N. Y. $2.40.

Olsen, Edward G. and Others. SCHOOL AND COMMUNITY. 1945. Prentice-Hall, N. Y. $3.75.

Otto. ELEMENTARY SCHOOL ORGANIZATION AND ADMINISTRATION. 2nd Ed. 1944. Appleton, N. Y. $3.75.

Risk. PRINCIPLES AND PRACTICES OF TEACHING IN SECONDARY SCHOOLS. 1941. American, N. Y. $3.00.

Sheviakoo and Redl. DISCIPLINE FOR TODAY'S CHILDREN AND YOUTH. 1944. National Education Association, Washington, D. C. 50¢.

Skinner, C. E. (Ed.). EDUCATIONAL PSYCHOLOGY. 1945. Prentice-Hall, N. Y. $3.75.

Tippett. SCHOOLS FOR A GROWING DEMOCRACY. 1936. Ginn. Boston. $2.20.

II. Arithmetic

Clark. PRIMARY ARITHMETIC THROUGH EXPERIENCE. 1939. World Book Co., N. Y. $1.40.

Morton. TEACHING ARITHMETIC IN THE ELEMENTARY SCHOOL, Volume I—PRIMARY, 1937. Volume II—INTERMEDIATE, 1938. Volume III—UPPER GRADES. 1938. Silver-Burdett, N. Y. $2.80 each.

National Council of Teachers of Mathematics. THE TEACHING OF ARITHMETIC. 10th Yearbook. 1935. $1.25. ARITHMETIC IN GENERAL EDUCATION. 16th Yearbook. 1941. $1.25. Bureau of Publications, Columbia University, N. Y.

III. Art

Cole. THE ARTS IN THE CLASSROOM. 1940. John Day Co., N. Y. $1.75.

Mathias. THE TEACHING OF ART. 1932. Scribner's. N. Y. $3.00.

Newkirk. INTEGRATED HANDWORK FOR ELEMENTARY SCHOOLS. 1940. Silver, N. Y. $3.20.

Todd and Gale. ENJOYMENT AND USE OF ART IN THE ELEMENTARY SCHOOL. 1933. Univ. of Chicago Press. Chicago. $1.50.

IV. Guidance

See bibliography, p. 179, this Handbook.

V. Health and Physical Education

Radbury and Amidon. LEARNING TO CARE FOR CHILDREN. 1943. D. Appleton-Century. 96¢.

National Education Association. Department of School Administrators.
SAFETY EDUCATION. 18th Yearbook. 1940. $2.00.
HEALTH IN SCHOOLS. 20th Yearbook. 1942. $2.00.
HEALTH EDUCATION. N.E.A. and A.M.A. Joint Committee. 1941. $1.50. 1201—16th St., N.W., Washington, D. C.

Strang and Smiley. THE ROLE OF THE TEACHER IN HEALTH EDUCATION. 1941. Macmillan. $2.00.

PHYSICAL FITNESS THROUGH HEALTH EDUCATION FOR THE VICTORY CORPS. 1943. 25¢.

PHYSICAL FITNESS THROUGH PHYSICAL EDUCATION FOR THE VICTORY CORPS. 1943. 25¢. Office of Education, Washington, D. C.

VI. Home Economics

Hatcher and Andrews. THE TEACHING OF HOMEMAKING. 1945. Houghton. $3.00.

National Education Association. Department of School Administrators. EDUCATION FOR FAMILY LIFE. 19th Yearbook. 1201 16th St., N.W., Washington, D. C. $2.00.

Southern States Work Conference. BUILDING A BETTER SOUTHERN REGION THROUGH EDUCATION. Guides to Educational Planning for Vocational Education. 1945. Edgar L. Morphet, Secretary, Department of Education, Tallahassee, Fla. 35¢.

Spafford. A FUNCTIONING PROGRAM OF HOME ECONOMICS. 1942. Wiley. N.Y. Rev. $3.00.

Williamson and Lyle. HOMEMAKING EDUCATION IN THE HIGH SCHOOL. 1942. D. Appleton-Century, N. Y. Rev. $2.00.

VII. Language Arts

Abney and Miniace. THIS WAY TO BETTER SPEECH. 1940. World. 68¢.

Betzner and Moore. EVERY CHILD AND BOOKS. 1940. Bobbs-Merrill. Ind. $1.60.

Center and Persons. TEACHING HIGH SCHOOL STUDENTS TO READ. 1937. Appleton-Century. N. Y. $2.25.

Cotrel and Holstrad. CLASS LESSONS FOR IMPROVING SPEECH. 1936. Expression Co., Boston.

Eaton. READING WITH CHILDREN. 1940. Viking. $2.50.

Freeman and Dougherty. SOLVING HANDWRITING NEEDS AS WE SEE THEM TODAY. 1940. Zaner-Bloser, Columbus, Ohio.

Gray, W. S. ed. COOPERATIVE EFFORT IN SCHOOLS TO IMPROVE READING. 1942. University of Chicago Press. Chicago. $1.50.

Harrison, READING READINESS. 1939. Houghton-Mifflin. Boston. $1.40.

Kaulfers, W. V. MODERN LANGUAGES FOR MODERN SCHOOLS. 1942. McGraw-Hill, N.Y. $3.50.

Lamoreaux and Lee. LEARNING TO READ THROUGH EXPERIENCE. 1943. D. Appleton-Century.

McKee, Paul. LANGUAGE IN THE ELEMENTARY SCHOOL. 1939. Houghton. Boston. $2.25.

National Society for Study of Education. THE TEACHING OF READING. 36th Yearbook. Part I. 1937. Public School Pub. Co., Bloomington, Ill. $2.50.

National Education Association. Department of Elementary Principals. NEWER PRACTICES IN READING IN THE ELEMENTARY SCHOOL. 17th Yearbook. 1938.

LANGUAGE ARTS IN THE ELEMENTARY SCHOOL. 20th Yearbook. 1941. 1201 16th St., N. W., Washington, D. C.

N. E. A. Research Bulletin. READING INSTRUCTION IN THE SECONDARY SCHOOL. 1942. 1201 16th St., N. W., Washington, D. C. $2.00.

Treut and Others. THEY ALL WANT TO WRITE. 1940. Bobbs-Merrill. Ind. $2.54.

Witty and Kopel. READING AND THE EDUCATIVE PROCESS. 1939. Ginn. Boston. $2.50.

VIII. Library

Coulbourn. ADMINISTERING THE SCHOOL LIBRARY. 1942. Educational Publishers, Minneapolis. $1.60.

Douglas. TEACHER-LIBRARIAN'S HANDBOOK. 1941. American Library Association. Chicago. $1.90.

Gardner and Baisden. ADMINISTERING LIBRARY SCIENCE IN THE ELEMENTARY SCHOOL. 1941. American Library Association. Chicago. $2.25.

Mott and Baisden. CHILDREN'S BOOK ON HOW TO USE BOOKS AND LIBRARIES. 1937. Scribner. N. Y. $1.28.

IX. Mental Hygiene (Human Development)

American Council on Education. HELPING TEACHERS UNDERSTAND CHILDREN. 1945. The Council. Washington, D. C. $3.50.

National Education Association. MENTAL HEALTH IN THE CLASSROOM. 1940. 13th Yearbook. Department of Supervisors and Directors of Instruction. N.E.A., Washington, D. C. $2.00.

National Education Association. MENTAL HYGIENE IN THE CLASSROOM. 1940. The Association. Washington, D. C.

Driscoll. HOW TO STUDY THE BEHAVIOR OF CHILDREN. 1941. Bureau of Publications, Columbia University, N. Y.

Wickman. DIGEST OF CHILDREN'S BEHAVIOR AND TEACHERS' ATTITUDES. 1938. The Commonwealth Fund. N.Y. 25¢.

X. Music

Dykoma and Gehrkens. THE TEACHING AND ADMINISTRATION OF HIGH SCHOOL MUSIC. Birchard. 1941.

Giddings and Others. MUSIC APPRECIATION IN THE SCHOOL ROOM. Ginn. Boston. $3.20.

Perkins. HOW TO TEACH MUSIC TO CHILDREN, 1936. Hall & McCreary Co., Chicago. $1.50.

Pitts. MUSIC INTEGRATION IN THE JUNIOR HIGH SCHOOL. 1935. Birchard. Boston. $2.50.

Hartshorn and Leavitt. MAKING FRIENDS WITH MUSIC. Vol. I. THE PILOT. Vol. II. THE MENTOR. Ginn. 1940. $2.00.

XI. Science

Arey. SCIENCE EXPERIENCES (EXPERIMENTS) FOR ELEMENTARY SCHOOLS. (Practical Suggestions for Teaching Series.) Columbia University, New York.

Craig. SCIENCE FOR THE ELEMENTARY SCHOOL TEACHER. 1940. Ginn. N.Y. $3.00.

Croxton. SCIENCE IN THE ELEMENTARY SCHOOL. 1937. McGraw-Hill, N. Y. $3.00.

Preston, C. E. THE HIGH SCHOOL SCIENCE TEACHER AND HIS WORK. 1936. McGraw-Hill, N. Y. $2.00.

XII. Social Studies

Beard. A CHARTER FOR THE SOCIAL SCIENCES. 1932. Scribner's, N.Y.

Beard. THE NATURE OF THE SOCIAL STUDIES. 1934. Scribner's, N.Y. $1.75.

Bining and Bining. TEACHING THE SOCIAL STUDIES IN SECONDARY SCHOOLS. 1941. McGraw-Hill, N.Y. $2.75.

Colcord. YOUR COMMUNITY. ITS PROVISION FOR HEALTH, EDUCATION, SAFETY AND WELFARE. 1941. Russell Sage Foundation, N.Y. 85¢.

Horn. METHODS OF INSTRUCTION IN THE SOCIAL STUDIES. 1937. Scribner's, N. Y. $3.00.

Johnson. TEACHING OF HISTORY. Revised Edition. 1940. MacMillan, N. Y.

National Council for the Social Studies. ECONOMIC EDUCATION. Eleventh Yearbook. 1940. $2.00. THE SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. Twelfth Yearbook. 1941. $2.00. TEACHING CRITICAL THINKING IN THE SOCIAL STUDIES. Thirteenth Yearbook. 1942. $2.00. The Council, 1201 Sixteenth St., N.W., Washington, D. C.

National Education Association. Department of Superintendents. THE SOCIAL STUDIES CURRICULUM. Fourteenth Yearbook. 1936. 1201 Sixteenth St., N.W., Washington, D. C. $2.00.

Progressive Education Association. Commission on Secondary Curriculum. THE SOCIAL STUDIES IN GENERAL EDUCATION. Appleton, N. Y.

Wilson. EDUCATION FOR CITIZENSHIP. 1938. The Regents' Inquiry, McGraw.

Wrightstone and Campbell. SOCIAL STUDIES AND THE AMERICAN WAY OF LIFE. 1942. Row. N.Y.

List of Professional Magazines and Journals.

CHILDHOOD EDUCATION. 1201 16th St., N. W., Washington, D. C. 9 issues. $2.50.

EDUCATIONAL ADMINISTRATION AND SUPERVISION. Warwick and York. Baltimore, Md. 9 issues. $4.50.

EDUCATION DIGEST. Box 100. Ann Arbor, Michigan, 9 issues. $3.00.

EDUCATIONAL LEADERSHIP. 1201 16th St., N. W., Washington, D. C. 8 issues. $3.00.

ELEMENTARY ENGLISH REVIEW. 211 West 68th St., Chicago. 8 issues. $2.50.

ELEMENTARY SCHOOL JOURNAL. Dept. of Education. University of Chicago. 10 issues. $2.50.

HIGH SCHOOL JOURNAL. Chapel Hill, North Carolina. 8 issues. $1.50.

NATIONAL ELEMENTARY PRINCIPAL. Dept of Elementary Principals, N.E.A. 1201 16th St., N.W., Washington, D. C. 6 issues. $3.00.

NATIONAL ASSOCIATION OF SECONDARY SCHOOL PRINCIPALS. N.E.A. 1201 16th St., N.W., Washington, D. C. 8 issues. $3.00.

NATIONAL EDUCATION ASSOCIATION JOURNAL. 1201 16th St., N. W., Washington, D. C. 9 issues. $2.00.

SCHOOL LIFE. U. S. Office of Education, Washington, 25, D. C. Monthly. $1.00.

For a more complete list of magazines, including those in subject areas, see "Classified List of Educational Periodicals," published annually in September by the American Association of School Administratives, N.E.A. 1201 Sixteenth Stret, N.W., Washington 6, D. C. 25¢, and the publications of the organizations mentioned in the section on Professional Organizations.

Professional Organizations.

A few of the more important organizations other than state organizations are given below. Addresses of the organizations and publications are added.

Association for Childhood Education, 1201 Sixteenth Street, N.W., Washington 6, D. C. CHILDHOOD EDUCATION. 9 nos. $2.50.

National Education Association, 1201 Sixteenth St., N.W., Washington 6, D. C. THE JOURNAL. 9 nos. $2.00.

Some Departments of the N.E.A. (addresses same as for N.E.A.)

American Association for Health, Physical Education and Recreation. JOURNAL OF HEALTH AND PHYSICAL EDUCATION. 10 nos. $2.50. RESEARCH QUARTERLY. $4.00.

American Association of School Administrators. YEARBOOK. OFFICIAL REPORT. CLASSIFIED LIST OF EDUCATIONAL PERIODICALS. MISCELLANEOUS DOCUMENTS.

Classroom Teachers. THE NEWS BULLETINS. 3 nos.

Elementary School Principals. THE NATIONAL ELEMENTARY PRINCIPAL. 6 nos. $3.00. YEARBOOK.

Music Educators National Conference, 64 East Jackson Blvd., Chicago 4, Ill. MUSIC EDUCATORS JOURNAL. 6 nos. $3.00. YEARBOOK. MANUAL TEACHERS' AIDS.

National Association of Secondary School Principals. BULLETIN. 8 nos. $3.00. STUDENT LIFE. 8 nos.

National Council for the Social Studies. SOCIAL EDUCATION. 8 nos. $2.00. YEARBOOK. BULLETINS.

National Science Teachers Association. THE SCIENCE TEACHER, 201 North School St., Normal, Ill. 4 nos. YEARBOOK.

Rural Education. YEARBOOK. RESEARCH BULLETINS. 5 nos.

Supervision and Curriculum Development. EDUCATIONAL LEADERSHIP. 8 nos. $3.00. YEARBOOK.

Visual Instruction. EDUCATIONAL SCREEN, 64 East Lake Street, Chicago, Ill. 10 nos. $2.00.

National Society for the Study of Education, 5835 Kimbark Ave., Chicago, Ill. YEARBOOK.

Other Subject Groups:

American Association of Teachers of French. THE FRENCH REVIEW, The Waverly Press, Mt. Royal and Guilford Avenues, Baltimore Md. 6 nos. $2.50.

American Association of Teachers of Spanish. HISPANIA, 450 Ahnaip St., Menasha, Wis. Quarterly. $2.00.

American Home Economics Association, 620 Mills Building, Washington 6, D. C. JOURNAL OF HOME ECONOMICS. 10 nos. $2.50. CONSUMER EDUCATION SERVICE. 9 nos. NATIONAL MAGAZINE OF HOME ECONOMICS STUDENT CLUBS.

Classical Association of the Atlantic States and South. THE CLASSICAL JOURNAL, Washington University, St. Louis, Mo. 9 nos. $1.00.

National Business Teachers Association. BUSINESS EDUCATION YEARBOOK. BUSINESS EDUCATION DIGEST, 2330 Grand Ave., Detroit, Michigan. 4 nos. $2.00.

National Council of Geography Teachers. JOURNAL OF GEOGRAPHY, Mankato, Minn. 9 issues. $2.50.

National Council of Teachers of English, 211 West Sixty-eighth Street, Chicago 21, Ill. THE ENGLISH JOURNAL. 10 nos. $3.00. ELEMENTARY ENGLISH REVIEW. 8 nos. $2.50.

National Council of Teachers of Mathematics. MATHEMATICS TEACHER, 525 West 120th St., N. Y. 8 nos. YEARBOOK.

National Vocational Guidance Association, 525 West 120th St., New York 27, N. Y. OCCUPATIONS. 8 nos. $3.50.

THE BEGINNERS' DAY PROGRAM

The Beginners' Day Program is a State-wide project planned for the purpose of securing information concerning the child at school entrance and to interest the child in school. This information is helpful to the teacher and the parents in determining the child's needs and in their efforts to get the child physically ready for school. Normal progress for the child through the first year's work is assured to a greater extent when the teacher and parents have a better understanding of the child's present equipment and needs.

In cooperation with the Parent-Teacher Association a one-day program is planned and held during the spring term in centrally located schools while they are in session. Parents bring the child to the school for enrollment, for examinations, and for introduction into first grade work.

In making provision for the spring health examination of the school beginner, the first grade teacher has a most unusual and most important opportunity to become acquainted with the present equipment and needs of the individual children who will enter the first grade in the fall. In realizing more fully this opportunity, the following suggestions may be helpful:

1. Read carefully the contents of the bulletin entitled "The Summer Round-Up of the Children" published by the National Congress of Parents and Teachers, Washington, D. C.
2. Note or check the items in the program as set forth in the bulletin which offer you an opportunity to assist in developing the plans.
3. Inquire about the plans (see the principal and superintendent) for your school and assist in getting together P. T. A. committees to plan the Beginners' Day Program for your school. Plan a brief meeting for principal, superintendent, and all first grade teachers in your school for the purpose of studying the contents of the bulletin and in making definite plans.

4. Canvass the names of the beginners who will enter school in the fall and visit as many of the homes as possible, urging the parents to bring the child to the school for the Beginners' Day Program.
5. Begin to make definite plans for the Beginners' Day in your school. Important items in the program are as follows:
 a. Preparation for spring health examination at the school. Who is to assist? Equipment needed? Rooms available? Number of children to be provided for?
 b. Enrollment of beginners. The first grade teacher should have charge of this part of the day's program in order to meet the parents and the child and secure all possible information from the parents about the child. (Use "Information Card for the School Beginner"—the yellow card.) Keep this card in the record files.
 c. Physical examination. When the teacher has interviewed the parents and enrolled the beginners, then the health officials make the physical examinations, recording data of the "Medical Record Form." (See copy on pages 8 & 9 of the Summer Round-Up bulletin.) Vaccinations and toxin-anti-toxin are administered, if desired by parents.
 d. Beginners who have already been examined by their family physician and dentist should attend the Beginners' Day Program and bring with them the blanks on which the facts of the examinations were recorded.
 e. While children are visiting classrooms, the parents assemble in the auditorium for lectures on various phases of child care and training.
 f. Mental tests administered at this time are very helpful as the results may be used in the classification of beginners for next year's work. The Pintner-Cunningham Intelligence Test and The Detroit Kindergarten Intelligence Test are recommended. A Story-Hour is a very good introduction to the testing period.
 g. Visits are made to first grade room by parents and children. Favors to take home are provided.
 h. The information assembled on the Medical Record Forms is reviewed and such items as the teacher considers helpful are transferred to the "Information Card for the School Beginner." This card should be on file for reference in organizing the program to meet the needs of children entering the school in the fall. The facts on this card will be helpful in:
 (1) Getting a fair picture of the total child situation which includes:
 (a) A brief family history as a background.
 (b) The child's present physical, mental, and social equipment.
 (2) Properly classifying the pupil at the beginning of the school year.
 (3) Working out an adaptation of the course of study to meet the needs and interests of the individual pupils. For example, the immature beginner needs a program of activities planned to develop a readiness for first grade work, while the more mature pupil can begin formal work in a short time.
 (4) Establishing a record system which implies child study and a program which tends toward a better understanding of the school beginner.

The situation in regard to the school entrant, stated briefly, has been that he was enrolled in school and led through a series of experiences without adequate or due regard for his readiness to profit by these experiences in terms of normal child growth and development, which, according to the facts concerning the percentage of retardation in the first grade, has resulted in failure for a large number of children enrolled the first year of school.

This group of children must be provided for either at the beginning of the school year or after they have met with failure and discouragement time after time. By the plan suggested here the teacher has a better understanding of the pre-school child applying for entrance into the first grade. The teacher has a much better basis for making curriculum adaptations and program adjustments to meet the varying needs of the individual children. The beginner has a much better chance for a successful year's work.

Any inquiries relative to the Beginners' Day Program should be addressed to the Division of Instructional Service, State Department of Public Instruction, Raleigh.

TEXTBOOKS

Selection. The textbooks used in the public schools are chosen by a State committee composed of teachers, principals and superintendents, appointed by the Governor and State Superintendent of Public Instruction. This committee evaluates the books submitted for consideration and reports to the State Board of Education which in turn adopts the texts to be used. In the evaluation of textbooks, each member of the committee applies to each book a list of criteria similar to the following:

CHECKLIST FOR EVALUATING TEXTBOOKS
Criteria for Evaluation

I. Is the content of the textbook satisfactory?
 1. Is the material in harmony with the environment and present-day needs of the child?
 2. Is the material in harmony with accepted educational aims?
 3. Is the material attractive and stimulating to the pupils?
 4. Is the language used adapted to the age and maturity of pupils?
 5. Is the content well graded?
 6. Are there sufficient details to give meaning to the main topics?
 7. Is the material accurate in fact and illustration?
 8. Does the material cover the field with respect to the grade level of the child?
 9. Does the material present a wholesome picture of the American way of life in our democracy?

II. Is the material of the textbook well organized?
 1. Is the material organized in a psychological rather than a logical manner?
 2. Is the principle of relative values adequately emphasized?
 3. Are essentials clearly differentiated from non-essentials?
 4. Is the material organized in such a way as to permit correlation with other subjects?

5. Is the material arranged so that parts may be omitted without impairing the cumulative effect?
6. Is the arrangement of main divisions and details satisfactory?
7. Does the organization of the material take into account the variability of pupils' interests and abilities?
8. Are practice exercises well placed?

III. Does the book contain adequate instructional aids?
1. Are the illustrations, maps, sketches, tables, and charts adequate, interesting, and educationally useful?
2. Does the book help the student to help himself by means of thought-provoking questions and directions?
3. Is the meaning and pronunciation of unusual and difficult words given by means of a glossary or otherwise?
4. Is the drill material simple, varied, and well graded?
5. Is the index full and usable?
6. Are there definite, annotated, and evaluated references?
7. Is there an informal, provocative, and interesting introduction for pupils?
8. Is the table of contents full and usable?
9. Are the chapter and section headings clear, brief, and interesting?

IV. Are the mechanical features of the textbook satisfactory?
1. Is the paper of good quality?
2. Is the typography suitable to the grade for which the book is intended?
3. Is the binding of the textbook durable?
4. Are the illustrations placed close to the text illustrated?
5. Is the set-up of the headings good?
6. Is the appearance of the book attractive?

Is the textbook as a whole satisfactory?

(16th Annual Edition, The American School and University, 1944.)

Free books. The basal texts used in grades one through eight are furnished free to all pupils enrolled. (See p. 18, Instructional Materials for Each Classroom.)

Rental system. The Division of Textbooks of the State Board of Education, which purchases and distributes the free textbooks provided by the State, also operates a rental system for supplementary readers used in the elementary schools, grades 1-8, and for the State adopted high school basal textbooks.

About 80 of the 171 administrative units participate in the supplementary reader rental system. A fee ranging from 50 cents to $1.40 per pupil is charged for this service, the rate depending upon the grade in which the pupil is located and the rental plan followed.

The State high school rental plan is now followed in 140 of the 171 units. An annual fee of $3.00 per pupil is charged for the use of these books.

Administrative units that do not belong to the State rental system, either for supplementary readers used in the elementary schools or for the State adopted high school textbooks, have their own independent rental plans for which they charge a fee, usually greater than the State fee.

Schools planning to purchase or rent supplementary books will find considerable assistance in the use of "The State Adopted Supplementary Textbooks for Elementary Schools" and the list of supplementary textbooks for high schools. Copies of either or both of these lists may be had on request to the State Department of Public Instruction.

PART III.

The Course of Study

GUIDANCE

Present trends in education emphasize the growth and adjustment of the whole child. This means that in addition to the regular instructional work the school must provide a number of special services to meet problems which arise in connection with the continuous development and adjustment of the individual. Some of these services constitute the guidance program of the school, guidance being defined as "that part of the school program most concerned with assisting the individual to become more effectively orientated to his present situation and to plan his future in terms of his needs, interests, abilities, opportunities and social responsibilities." The key to the guidance program is the discovery of these needs, interests and abilities and the provision for activities which will meet the needs of each individual.

If guidance is concerned with the total development of the individual, it must be an accepted function of both the elementary and secondary schools with certain aspects of the guidance program receiving emphasis at each level.

Guidance in the Elementary School.

Some suggested guidance activities for the elementary school are:

1. Keep adequate continuous cumulative records.
2. Observe and study each child to identify those with specific abilities, interests and talents and plan a series of experiences through which these may be developed.
3. Make a study of the over-age pupils, those having symptoms of maladjustment or personality difficulties, weaknesses in the fundamental processes, health or physical deficiencies, etc. and plan a preventive or remedial program.
4. Work for a pupil-teacher relationship which causes the child to accept the teacher as "counselor" in all his ups and downs.
5. Establish cooperative relationships between the home and all community agencies concerned with the welfare of children.

6. Provide a preliminary acquaintance with the world of work —how people live and make a living—and stress the appreciation for all workers.
7. Stress good work habits and provide activities which afford children the opportunity to learn to work together and develop right attitudes toward work.
8. Help with the orientation of pupils to the next school situation by furnishing the school with significant information about the pupils and by providing them with information about the school or schools to which they expect to go.

Guidance in Secondary School.

The guidance program in the secondary school is a continuation and an enlargement of the activities in the elementary school with certain additional services which must be rendered students at the high school level. Following are suggestions in the specific areas of guidance for the high school:

A. Pupil Inventory.
 1. Keep cumulative records up-to-date through a systematic plan for securing and recording information.
 2. Make cumulative record more meaningful through continual efforts to secure and record pertinent information about pupils through use of standardized tests, teacher rating scales, anecdotal records, autobiographies and interest questionnaires, etc.
 3. Consider pupil inventory as a necessary device for counseling and a guide when any change of program or causes of failures, poor attendance, and other difficulties are being considered.

B. Occupational Information.
 1. Provide in the first year of high school a unit on occupations in which students will be introduced to the world of work—number and kinds of jobs, skills and training requirements, distribution of workers, opportunities and trends on local, State and national level, etc.
 2. Have occupational materials, such as books, pamphlets, etc. in the school library or some other accessible place.
 3. Set up file for unbound occupational materials and for college catalogs and other bulletins on further training opportunities.

4. Correlate occupational information with school subjects.
5. Provide near the end of the high school career a unit for a more intensive study of several occupations based on the analysis of the individual.
6. Arouse interest in occupations and provide information through such activities as community surveys, field trips, career days, bulletin board displays, visual aids, etc.

C. Counseling.

1. In high schools with six or more teachers release the best qualified member of the faculty for at least one period a day or per week, depending on the size of the school, to do counseling. Students should have as expert help as possible in making decisions concerning educational and vocational plans and in solving many types of problems.
2. In schools having less than six teachers each teacher may assume her own counseling duties but should be encouraged to get counselor training.
3. Organize the counseling program so that each child is reached.
4. Encourage the counselor to get as much professional training in guidance as possible.

D. Placement.

1. Help students secure part-time jobs and employment during vacation.
2. Set up a school placement service. (In cooperation with the United States Employment Service, where possible.)
3. Have available information for students concerning job openings, job training, labor laws, work permits, and methods of interviewing and applying for jobs.

E. Follow-up.

1. Make a follow-up of all graduates and drop-outs to see where they are, what they are doing, and how well they are getting along.
2. If possible make a follow-up at intervals of one, three and five years after pupils have left school.

3. Use the follow-up as a means to offer further assistance to pupils and to discover inadequacies in the pupils' training which would warrant changes in the school's program.

References:

Strang, Ruth. *Child Development and Guidance in Rural Schools.* Harper. $2.50.

Reed, Anna. *Guidance and Personnel Service in Education.* Cornell University Press. 1944. $4.75.

Forrester, Gertrude. *Methods of Vocational Guidance.* Heath. 1944.

Lefever, Turrell & Weitzel. *Principles and Techniques of Guidance.* Ronald Press, New York. 1941. $3.00.

Myers. *Principles and Techniques of Vocational Guidance.* McGraw. New York, 1941. $3.00.

Minimum Essentials of the Individual Inventory in Guidance. U. S. Office of Education. Vocational Division Bulletin No. 202. Washington, D. C. Government Printing Office. 1940.

Practical Handbook for Counselors. Developed by New York State Counselors Association. Science Research Associates. $1.00.

Write to Occupational Information and Guidance Service, State Department of Public Instruction, Raleigh, N. C. for information about current guidance materials.

LANGUAGE ARTS

Publication No. 249, "Language Arts in the Public Schools, 1945" makes suggestions for teaching all phases of Language Arts in grades 1-12. Both elementary and high school teachers will find many helpful suggestions, both concerning teaching methods and materials.

FOREIGN LANGUAGES

The last complete course of study in foreign languages was Publication No. 188, "Courses of Study in Foreign Languages." However, the bulletin outlining work for the twelve year program, Publication No. 235, contains a more recent statement prepared by foreign language teachers. Principals and teachers are referred to page 105 of Publication No. 235 for a statement of policy concerning foreign language and the statement prepared by foreign language teachers which should be helpful in counseling high school students with reference to election of foreign language courses.

MATHEMATICS

Teachers will find very definite suggestions about grade placement of various topics and a complete outline for all grades 1-12 on pages 114-154 of Publication No. 235, "A Suggested Twelve Year Program for the North Carolina Public Schools."

SOCIAL STUDIES

An outline by grades for the Social Studies and suggestions about textbooks and other materials will be found on pages 155-201 of Publication No. 235.

SCIENCE

For assistance in the teaching of science in the elementary and secondary schools it will be necesary for teachers to refer to several publications. Publication No. 227, "Science for the Elementary School, 1941", contains a program of work for science in grades 1-7. When the elementary school was extended to include the eighth year suggested units for the eighth grade were outlined on pages 207-211 of Publication 235. It is emphasized that the units suggested for each year are numbered for purposes of reference only, and not to suggest the order of teaching.

For an outline of courses suggested for the high school teachers, refer to Publication No. 189, "A Study in Curriculum Problems of the North Carolina Public Schools, 1935," pages 360-377.

HEALTH

Health a First Objective of Education.

Health has been accepted in modern education as a primary objective. It was named as the first of the seven cardinal objectives of education in the 1918 report of the Commission on the Reorganization of Secondary Education. The Educational Policies Commission recently stated: "An educated person knows the basic facts concerning health and disease . . . works to improve his own health and that of his dependents . . . and works to improve community health."

School Health Policies.

Every school should establish workable school health policies. These policies should be drawn up, preferably in writing, by school and health agencies in cooperation with other agencies concerned with the health of the school child. School health policies should:

Recognize the total health of the child in his total life situation.

Evolve from this health the needs of children.

Be free from fad and prejudice of tradition based on false or unproved assumptions.

Grow out of successful experience and be guided by expert judgement to the end that the health program of the school will conform with and help give direction to the policies of the community which the school serves.

School health policies should be broad enough to cover every phase of school health and definite enough to serve as a practical guide to assure for school children at least the minimum health opportunities which may be provided by:

1. Healthful school living conditions.
2. Appropriate and adequate health and safety instructions.
3. Adequate or superior services for health protection and improvement.
4. Physical education that is healthful, recreational, socially beneficial and conducive to the development of neuro-muscular skills of the organic systems of the body.
5. Teachers and other school personnel who are qualified to assume special health responsibilities.
6. Special consideration for the education and care of handicapped children.

Responsibility of the School for Child Health.

In the first place, the school should recognize that there are many other agencies and organizations concerned with the health of children. Therefore, one of the first responsibilities of the school is to work cooperatively with these recognized agencies and organizations which can contribute to the improvement of child health, provided, of course, that the type of health is not a duplication or in conflict with the health activities already carried on effectively by the schools or other social agencies.

In the second place, the school has a definite responsibility for taking the lead, as well as in cooperating, in the development of community projects whenever there is an unmet need.

The schools have definite responsibilities for the following aspects of health education:

I. HEALTHFUL SCHOOL ENVIRONMENT.

Schools have a definite responsibility to provide the kind of school environment which will: (1) protect the child from health and safety hazards; (2) serve as an example of a healthful environment; (3) provide a medium for teaching health habits through the use of health protection and promotion.

Section V. The School Plant, pages 37-51, contains detailed requirements and recommendations with regard to:

General Plan, P. 37.	Artificial illumination, p. 41.
Classrooms, p. 40.	Corridors, p. 42.
Window shades, p. 40.	Toilets, p. 43.

II. HEALTH INSTRUCTION.

Health Instruction on the Elementary Level. Health instruction consists largely of helping children to live healthfully at home, at school and at play. Emphasis is placed on the development of desirable health habits and proper attitudes towards healthful living. The methods of giving this emphasis should be through the utilization of opportunities provided in the everyday life experiences of the child, such as the use of hand washing facilities, medical and dental examinations; teacher and nurse inspection of children, weighing and measuring, playground activities, and the lunch period.

In the intermediate grades the emphasis should be continued on the development of health habits and attitudes. Added interest, understanding and appreciation of the need for and value of healthful living should be gained by the child through the acquisition and use of knowledge underlying the "why" of healthful living.

The time allotted to health instruction in the elementary grades should be determined in accordance with the needs and interests of pupils and the ability of the teacher to successfully utilize such time. Suggested schedules on pages 123 recommend *30 minutes* per day for health instruction in the elementary grades. However, need rather than a rigid time schedule should govern the amount of emphasis on health. Since health is the first aim of education, the amount of time allotted to health instruction should at least be the equivalent of that devoted to any other major area of the curriculum.

Publication No. 235, A Suggested Twelve Year Program, State Department of Public Instruction, page 214 gives some suggestions for health education activities for elementary grades.

Health Instruction in the Secondary School. Health instruction in the secondary schools should include:

1. A special course in the high school, State regulations require that health and physical education be given in the 9th grade—a minimum of two periods per week in health instruction. This minimum, however, is not considered adequate by the State Department of Public Instruction. The trend, in the better schools of the country, is to give health instruction a definite place in the curriculum rather than use it as a rainy day substitute for physical education.

2. Day-by-day health supervision and guidance by all homeroom and classroom teachers. "Opportune moments" to give health guidance to an individual or to a group should be utilized by all teachers under all circumstances.

3. Health instruction, to supplement the specific course in health, in such courses as physical education, science, home economics, social studies, industrial arts. Some method should be worked out locally to avoid undesirable duplication in the health instruction phases of the various subjects that offer health instruction opportunities. A School Health Council might be charged with the responsibility of coordinating the health work of the various classroom teachers, special health teachers and other health personnel.

References:

Publication No. 154, *Course of Study for the Elementary Schools of N. C.*, 1930.

Publication No. 189, *A Study in Curriculum Problems of the North Carolina Public Schools*, 1935.

Publication No. 235, *A Suggested Twelve Year Program for the North Carolina Public Schools.*

Publication No. 219, *Physical and Health Education for Elementary and Secondary Schools*, 1940.

Publication No. 145, *Alcohol and Narcotism, State Department of Public Instruction.* (Out of print.)

Publication No. 174, *Health and Citizenship Education*, 1933, State Department of Public Instruction.

Health Education. A joint report of the N.E.A. and the American Medical Association. May be secured from N.E.A., Washington, D. C. $2.00. A general publication of health education that should be available to every teacher.

Health in Schools. Twentieth Yearbook. American Association of School Administrators. $2.00. N. E. A.

Suggested School Health Policies. American Medical Association.

School Community Health Service Course. State Department of Public Instruction.

Williams and Shaw. *Methods and Materials in Health Education.* Barnes. 1937. $2.00.

What Every Teacher Should Know about the Physical Condition of her Pupils. United States Office of Education, 1945. 10¢.

More Firepower for Health Education. U. S. Office of Education. 15¢.

Health and Physical Fitness. For all American Children and Youth. N. E. A. Washington, D. C. 10¢.

Physical Fitness Through Health Education. U. S. Office of Education. 25¢.

Boy and Girl Together. State Department of Public Instruction. (This bulletin deals with social hygiene and is recommended for use with high school students.)

Teaching-materials for Children. See list of supplementary and basal textbooks.

Health Charts

Health charts may be secured from the following companies:

1. Geo. F. Cram Co. Inc., Indianapolis.
 Health and Hygiene Charts. Complete set 22.
2. Denoyer-Geppert Co., Chicago.
 Winslow Series. Complete set 18.
3. A. J. Nystrom and Co., Chicago.
 Fishbein Series. Complete set 22.

HEALTH PROTECTIVE AND IMPROVEMENT SERVICES.

Schools have a definite and important responsibility for health protective and important services. In North Carolina this responsibility is shared by local health departments and therefore policies and procedures for health services should be jointly planned and the duties of the administrator, health department personnel and the teacher should be clearly defined. The health protective and improvement services for which schools have some responsibility include:

1. Those relating to the care of emergencies, whether resulting from sickness or injury.
2. Prevention and control of communicable diseases.
3. Health counseling—the planned cooperative efforts on the part of the administrator, teachers, nurses, physicians psychologist, dentist, and others to discover the *health needs*

and health problems of students and to help them and their families find ways of meeting these needs and advising and solving these problems.

These methods used to determine health needs and problems include: (For more details see pages 22-35 of Publication No. 219, Physical and Health Education for Elementary and Secondary Schools, North Carolina State Department of Public Instruction, 1940.)

Teacher's daily observation of students to discover any signs or symptoms of health problems.

Screening test—test of eyes with Snellen eye chart, ears by whisper test, weighing and measuring for *marked* deviation from average weight or lack of normal growth, inspection for signs of defective or diseased skin.

Reports from pupils and parents, psychological examinations, nurses inspection and medical examination.

Provision should be made in every community, for the medical examination of students who (1) show signs or symptoms of disease, defects or disorder, (2) fail to grow as expected, (3) appear to have a health basis for failure to make anticipated school progress.

Periodic medical examinations of school children, as required in some states, can be helpful in health maintenance, improvement and education. It is recommended by School Health Policies[1] that "During their school years students should have a minimum of four medical examinations; one at the time of entrance to school, one in the intermediate grades, one at the beginning of adolescence and one before leaving school. Pupils who have serious defects or abnormalities, who have suffered from serious or repeated illnesses, or who engage in vigorous athletic programs require more frequent examination. The physician is the best judge of the need for repeated examinations and of the frequency with which they should be given. Additional examinations, even annual examinations, may be arranged if money, time and personnel permit, but the quality of medical procedures and judgment should not be sacrificed to a desire for frequent and complete coverage of the entire school. Medical examinations should be sufficiently painstaking and comprehensive to command medical respect,

[1] Suggested School Health Policies. pp. 28-29. American Medical Association.

sufficiently informative to guide school personnel in the proper counseling of the student, and sufficiently personalized to form a desirable educational experience.

For recording the results of observations, screening, reports from examinations and reports from parent and child, the State Department of Public Instruction distributes to superintendents upon request for a small charge the following:

Information Blank for School Beginners.

Teacher's Health Appraisal Sheet.

The North Carolina Cumulative Record Folder and Manual of Instructions. A section of this card contains space for the health record. This part of the card is an exact copy of the School Examination Card.

School Health Examination Card. (May be secured also from the local health department without cost.)

"FOLLOW-UP" OF HEALTH APPRAISAL AND EXAMINATION.

Determining and recording health needs are of little importance unless some systematic procedures are followed to meet these needs. Such procedures should include:

1. Proper interpretation of the needs to students and parents; to teachers and administrators; and to the community itself.

 The purpose of such procedures is to create an awareness, on the part of all concerned of the importance of seeking correction of remediable defests as soon as possible and to stimulate the practice of health habits.

2. Adjustment of the school program and daily routine of the child, whenever possible, to fit his needs and abilities.

3. Utilization of all local, State and Federal resources to provide medical and dental services for those children whose parents cannot afford to pay for such services.

SAFETY EDUCATION

The Responsibility of the School.

It is a duty and a responsibility of the school authorities to provide opportunities for the acquisition of knowledge, skills, habits, attitudes, and appreciations which will lead to intelligent, safe living.

From an administrative standpoint, safety and health education present very much the same problem. Situations that are healthy are generally safe, and *vice versa*. In working out methods and procedures for curriculum study, school officials may quite properly combine health and safety. By safety, in this particular instance, we are referring to the sum total of school experiences which have to do with protection of the individual and society against physical hazards. From an educational point of view it is of startling significance, yet encouraging, to note that most accidents are preventable. The three major causes of accidents may be classed as follows: (a) Carelessness; (b) Lack of skills; (c) Lack of knowledge (applied knowledge).

Safety Content.

The content of the safety curriculum should be based upon certain fundamental criteria, namely:

1. Recognition of the principle that education is concerned with the whole personality.
2. Acceptance of the principle that we learn best by doing.
3. Acceptance of the principle that the aim of safety education is identical with the aim of general education.
4. Adaptation of the program to the nature and needs of children at the various stages of development.

A Balanced Program of Safety Education.

A program based on the above criteria will be well balanced. The needs of the pupils will be determined by a study of:

1. The accidents that are killing and injuring children of school age.
2. The activities involving hazards in which children engage.
3. The safety activities provided by society for the protection of life and property.

We know from a study of data on accidents* that the school age, especially the high school age, is one of the dangerous periods of life. Three kinds of accidents, those resulting from drowning, firearms, and recreational activities, reach their peak during the adolescent period, while traffic accidents reach a peak just above the school age.

*Data may be secured by writing the National Safety Council, 1 Park Ave., New York, N. Y.

For a complete and well-rounded program of safety education, we must recognize the importance of safety education in every phase of life in which there are physical hazards. Knowledge, habits, and attitudes of safety must be developed in relation to:

1. The automobile.
2. The highway.
3. The home.
4. The school.
5. Athletics.
6. Recreation.
7. Occupation.

Objectives of the School Safety Program:*

1. Provide experiences through the curriculum which will develop the knowledge, skills, and appreciation of safety essentials needed to prepare pupils to cope with the hazards of modern life.
2. Provide and maintain safe and sanitary school buildings, grounds, and equipment needed for a safe and healthful environment.
3. Reduce to a minimum the dangers and discomforts of bus transportation.
4. Cooperate with agencies and organizations whose programs for safety education are based upon sound educational principles.

A complete program will include two kinds of activities: first, the curricular, and second, the extra-curricular activities.

Activities involving development should continue through the whole school period. In the secondary school the problem of correlation becomes more difficult.

No single department can provide an adequate program for the entire school. The physical education department, in many instances, includes safety as a part of the program in the same way as the health education, by assisting other departments in the school in organizing instructional materials for various subjects. Subjects richest in opportunities for safety education include health education, physical and social sciences, vocational subjects, and physical education.

Safety precautions include:

1. Frequent inspection of all facilities.
2. Careful supervision of activities.
3. Attention to game rules.
4. Teaching of, and practice in, safety and first-aid measures.

*These objectives follow closely those of the National Safety Council.

Tests in Safety.

The Center for Safety Education, New York University, New York, has prepared and will furnish to schools at a minimum cost several tests in safety education.

Evaluating the Safety Program.

The best and most effective way to evaluate a safety program is to keep accurate accident records. Effectiveness can then be measured by the reduction of accidents. The National Safety Council, 20 North Wacker Drive, Chicago, Illinois, will provide record blanks and instruction for use of same.

Driver Education.

Whenever posible it is recommended that special emphasis in Driver Education be given in the high schools.

A minimum of 45 clock hours is recommended for instruction in Driver Education. If possible, road training should be given as a part of this course. This is especially true for those who wish to qualify as bus drivers.

Driver Education may be given:

1. As a complete, separate, course—classes meeting daily for six weeks, nine weeks, or a full semester.
2. As a distinct unit in connection with Citizenship, Geography, or other social studies.
3. As a substitute for study periods.
4. In after- and before-school classes.
5. Selected parts of the driver education course assigned to teachers of several courses.

A test in Driver Education, *Standard Test In Driver Education,* has been prepared by the National Conservation Bureau, 60 John Street, New York 7, New York. It can be secured from the State Department of Public Instruction without cost.

Man and the Motor Car, published by the National Conservation Bureau, is suggested as a textbook. This publication may be secured from the Division of Publications, State Department of Public Instruction, Raleigh, North Carolina for 60¢.

First Aid for the Injured.

First aid is so closely related to safety education that it should be considered in planning a program of safety education. It is im-

portant that all children know what to do when some unexpected accident occurs. There are many excellent pamphlets and bulletins dealing with first-aid, which give complete instructions on methods, materials, and techniques. An outline of such procedures are, therefore, omitted from this bulletin. Standard books on health education contain excellent materials on first aid; the American Red Cross and most of the better known insurance companies publish splendid and complete materials on this subject, which can be secured at little or no cost.

TEXTBOOKS, REFERENCES AND MATERIALS FOR TEACHING SAFETY

ORGANIZATION AND ADMINISTRATION

HEALTH AND CITIZENSHIP. Publication 174, State Superintendent of Public Instruction, Raleigh, N. C.

American Association of School Administrators. SAFETY EDUCATION, Eighteenth Yearbook. Washington, D. C. 1940. pp. 398-406.

American Automobile Association. STATE REGULATION OF SAFETY EDUCATION IN THE UNITED STATES. Pennsylvania Ave., Washington, D. C. 1940.

Center for Safety Education. ABSTRACT OF THE PROCEEDINGS OF CONFERENCES ON PROBLEMS IN SCHOOL ADMINISTRATION. New York University, N. Y. 1940.

LeAnderson, Robert E. THE UTILIZATION OF COMMUNITY AGENCIES AND RESOURCES. The Phi Delta Kappan, Vol. XXI, January, 1939. p. 181.

Miller, Ben W. PROBLEMS IN SAFETY EDUCATION, Journal of Health and Physical Education, Vol. XI, April, 1940. p. 225.

National Safety Council. THE JUNIOR SAFETY COUNCIL, a Handbook for the Schools. 20 North Wacker Drive, Chicago, Illinois. 1935.

Odom, Charles L. A SELECTED AND ANNOTATED BIBLIOGRAPHY OF TESTS IN SAFETY EDUCATION. Center for Safety Education, New York University, N. Y. 1940.

Siebrecht, E., Clarke, E., Odom, C., Greenwood, G., and Carter, P. A CHECK LIST FOR THE EVALUATION OF A COURSE OF STUDY IN SAFETY EDUCATION. (Includes a selected bibliography on course of study evaluation.) Center for Safety Education, New York University, New York.

Stack, Herbert J. THE SUPERINTENDENT ORGANIZES THE CHILD SAFETY PROGRAM, School Management, May 1939.

White House Conference on Child Health and Protection. SAFETY EDUCATION IN SCHOOLS. The Century Company, New York. 1932. pp. 54-55.

PHILOSOPHY

American Association of School Administrators. SAFETY EDUCATION, Eighteenth Yearbook. N.E.A., Washington, D. C. 1940. Chapter I.

Bacon, D., Caughey, E., Clark, M. A PHILOSOPHY ON SAFETY EDUCATION. Center for Safety Education, New York University, New York. (Committee Report.) 1940.

Whitney, Albert W., SAFETY FOR MORE AND BETTER ADVENTURES. National Safety Council, 20 N. Wacker Drive, Chicago, Illinois. 1931.

Teacher Education

American Association of School Administrators, SAFETY EDUCATION, Eighteenth Yearbook. N.E.A., Washington, D. C. 1940. Chapter IX.

Methods

American Association of School Administrators, SAFETY EDUCATION, Eighteenth Yearbook. N.E.A., Washington, D. C. 1940. pp. 53-55.

National Education Association, SAFETY EDUCATION THROUGH SCHOOLS, Research Bulletin, Vol. XVI, No. 5. N.E.A., Washington, D. C. 1938. pp. 249-256.

National Safety Council. SAFETY EDUCATION METHODS: ELEMENTARY SCHOOLS. 20 N. Wacker Drive, Chicago, Illinois. 1940.

National Safety Council. SAFETY EDUCATION METHODS: SECONDARY SCHOOLS. 20 N. Wacker Drive, Chicago, Illinois. 1940.

Odom, Charles L., INDIVIDUALIZING SAFETY INSTRUCTION IN THE ELEMENTARY SCHOOLS. Safety Education, Vol. XIX, April, 1940.

Traffic Safety and Driver Education

American Automobile Association. DRIVER EDUCATION AND TRAINING MANUAL FOR HIGH SCHOOL TEACHERS. Pennsylvania Ave., Washington, D. C. 1940.

SPORTSMANLIKE DRIVING. 1938.

Beadle, K. N. DRIVER TRAINING PROCEDURE. National Conservation Bureau, 60 John Street, New York, N. Y. 1939.

Kramer, Milton D., A SELECTED BIBLIOGRAPHY IN TRAFFIC SAFETY AND DRIVER TRAINING. Center for Safety Education, New York University, N. Y. 1940.

Whitney, A. W., MAN AND THE MOTOR CAR. National Conservation Bureau, 60 John Street, New York. 1939.

Accident Statistics

National Safety Council. ACCIDENT FACTS. 20 N. Wacker Drive, Chicago, Illinois.

TRAFFIC ACCIDENT FACTS. North Carolina Highway Safety Division. Published annually.

Physical Education and Recreation

Center for Safety Education, PROCEEDINGS OF THE PRE-CONVENTION CONFERENCE ON SAFETY EDUCATION, American Association of Health, Physical Education, and Recreation. New York University, New York. 1940.

Danford, Howard G., SAFETY AWHEEL, Safety Engineering, Vol. 77, May 1939.

Danford, Howard G., SAFE AT ALL BASES, Safety Education, Vol. XIX, May, 1939.

Lloyd, F. S., Deaver, G. G., and Eastwood, F. R., SAFETY IN ATHLETICS. W. B. Saunders Co., Philadelphia. 1936.

Lorenz, Alfred L., NATIONAL BICYCLE TEST. Center for Safety Education, New York University, N. Y. 1940.

National Safety Council, PREVENTION OF BICYCLE ACCIDENTS: Report of Committee on Bicycle Problems. Chicago, Illinois. 1939.

National Safety Council, SAFETY FOR SUPERVISED PLAY GROUNDS. 20 N. Wacker Drive, Chicago, Illinois. 1937.

FIRE PREVENTION

International Fire Protection Association. ELECTRIC SERVICE WITH SAFETY. New York.

National Board of Fire Underwriters. FIRE PREVENTION AND PROTECTION AS APPLIED TO THE PUBLIC AND PAROCHIAL SCHOOLS. New York. 1939.

National Board of Fire Underwriters. SAFEGUARDING THE NATION AGAINST FIRES. New York. 1930.

National Fire Protection Association. 1,000 SCHOOL FIRES. Boston. 1939.

National Fire Protection Association. PREVENTION AND CONTROL OF FARM FIRES. Joint Committee. Boston. 1932.

INDUSTRIAL ARTS AND VOCATIONAL EDUCATION

Granniss, E. R., SAFETY TRAINING FOR VOCATIONAL SCHOOLS AND SCHOOL SHOPS. National Safety Council, 20 N. Wacker Drive, Chicago, Illinois. 1933.

Smith, Warren. SAFETY EDUCATION FOR SHOP TEACHERS IN NORTH CAROLINA SCHOOLS. Bulletin II, State College Record, Vol. 38, No. 6, N. C. State College, Raleigh, N. C.

Kramer, Milton D., A SELECTED BIBLIOGRAPHY IN ACCIDENT PREVENTION PROCEDURE FOR INDUSTRIAL ARTS AND VOCATIONAL EDUCATION. Center for Safety Education, New York University, New York. 1940.

Metropolitan Life Insurance Company, INDUSTRIAL SAFETY EDUCATION IN SCHOOLS. New York. 1936.

Pennsylvania Department of Public Instruction. SAFETY EDUCATION IN INDUSTRIAL SCHOOL SHOPS. Bulletin 332. Harrisburg. 1938.

RURAL

American Red Cross. GROUP DISCUSSION ON ACCIDENT PREVENTION. Washington, D. C. 1938.

American Association of School Administrators. SAFETY EDUCATION, Eighteenth Yearbook. N.E.A., Washington, D. C. 1940. pp. 167-188.

International Harvester Company. STOP CARLESSNESS! PREVENT ACCIDENTS! Chicago. 1938.

National Safety Council. Safety Education in the Rural Schools. 20 N. Wacker Drive, Chicago. 1939.

PHYSICAL EDUCATION

The aim of the physical education program should be the same as that of general education. Thus, any activity carried on primarily for other than educational purposes should not be included in the program. All of the activities of the program should be selected in terms of the contributions such activities make to *definite educational objectives.*

A. FIVE MAJOR OBJECTIVES.[1]

1. Building organic fitness today and tomorow through activities definitely selected to build strength, vigor and capacity.
2. Inculcating health habits for today and tomorrow, not by just giving the knowledge but by providing ways and means for wholesome living in practice.
3. Developing physical abilities and control by providing a wide, rich, program of many activities that develop neuromuscular skills.
4. Generating within the hearts of boys and girls recreational habits and interests that will carry over into their adult hobbies and avocations.
5. Training for definite behavior through sportsmanship and in this way build for character and better citizenship.

B. ADAPTING TO INDIVIDUAL DIFFERENCES.

The kind of activities chosen by or assigned to an individual should be in accordance with his physical status as determined by a health appraisal and/or medical examination. Children should not be barred from or excused from enrollment in physical education because of illness or disability, but should be assigned to modified activity, or to rest. The type of modified activity, including corrective physical education, should be based on a physician's recommendation and should be under the direction of qualified teachers. Precautions should be taken to protect convalescents, including those recovering from colds, from too strenuous participation in physical education activities.

[1] Physical and Health Education for Elementary and Secondary Schools. Publication No. 219, N. C. State Department of Public Instruction, 1940.

C. SCOPE OF PHYSICAL EDUCATION.

1. *Required physical education classes.* In the elementary grades physical education is required by State Department regulation a minimum of 30 minutes per day (150 minutes per week). This time is to be in addition to the health instruction period and to any time that may be given to recess periods. The 30 minutes required period should be an instructional period in physical education and *not* a free play period.

 In the high school physical education is required by State Department regulation a minimum of three periods (45-60 minutes each) per week for all ninth grade students. One unit of credit towards graduation may be granted for the combination of health and physical education. (3 periods of physical education and 2 periods of health instruction.)

 It is recommended that whenever possible physical education be given more than required by State regulation. With reference to time allotment, for high schools, the ideal should be a daily period (45-60 minutes) for every high school student every year.

2. *Optional physical education classes.* Whenever it is not possible to require physical education beyond the ninth grade, it is strongly recommended that opportunities be provided for those who want, and more especially for those who *need* physical education activities in grades 10, 11 and 12.

3. *Intramural.* Every school should conduct a comprehensive intramural program to provide wholesome leisure time activities for those who do not participate in "varsity athletics". Intramural sports for the mass of students should be given preferential consideration over "varsity" for the few.

 It is suggested that the intramural program include such sports as softball, basketball, tag football, soccer or speedball, tennis, volley ball, golf, and swimming.

4. *Recreational activities.* In addition to the recreational activities carried on as a part of the required, optional, intramural and varsity programs, other non-organized recreational activities should be sponsored by the schools

for school and out-of-school children and adults. Folk dances, social dancing, badminton, ping pong, shuffleboard, bowling, box hockey, camping, skating, bicycling, hiking, are suggested for recreational programs.

5. *Interschool (Varsity) athletics.* Interschool athletics should be considered as an important phase of the total physical education program and should be financed by school boards and administered by school officials. The guiding principles of the selection and amount of activities should be based upon the educational values inherent in the activity and not upon gate receipts and publicity.

 Coaches should be *bona fide* members of the faculty and should be trained in physical education.

 Interschool athletics should be confined to the senior high schools. Intramural activities on an extensive basis rather than interschool competition is recommended for junior high school students.

D. SAFEGUARDING THE HEALTH OF STUDENTS.

The primary consideration in planning and conducting athletic programs should be the health and welfare of students. The following policies and procedures recommended by the State Department of Public Instruction conform in substance with policies and resolutions as passed by the Joint Committee of the American Medical Association and the American Association for Health, Physical Education and Recreation and the National Society of State Directors:

1. Adequate medical examinations should be provided for all athletes at the beginning of the season and as needed throughout the season, and no student should be allowed to participate without a doctor's certificate.
2. Athletes who have been sick should not be permitted to participate in athletics until certified by a physician to be physically fit.
3. The best obtainable protective equipment should be provided for all participants and every reasonable precaution against accidents should be taken. The school should prohibit tackle football by school children on school property whether organized or unorganized unless properly equipped and should discourage same in every way possible at any other location.

4. Contests should be selected that are not too strenuous for the youngest, not the average, of those who participate.
 a. Junior high (and naturally, elementary) students should not compete in American football.
 b. Interscholastic boxing is too strenuous for high school students and should not be permitted.

5. Competition should take place only between teams of comparable ability.

6. Playing seasons should be of reasonable duration with no postseason contests.

 Basketball. Basketball teams for boys should be limited to 14 games or fewer. Two games in any one week should be the maximum number played. School administrators should not permit teams to enter any tournament—local or otherwise—which will require more than two games per week for any team which participates. Roundrobin tournaments, as a regular part of the season, should be encouraged in preference to the elimination tournament.

 Football. Interschool competition should be limited to a maximum of 7 games. The minimum age for participation should be 15 years. Schools with less than 22 boys physically fit as determined by medical examinations should not engage in interschool football.

 Track and Field. A boy should not be permitted to run in more than one track event if the distance is greater than 220 yards. No boys should be permitted to compete either in intramural or interscholastic competition, unless he has had a minimum of four weeks training prior to the meet.

7. Interscholastic competition for girls.

 The National Committee on School Health Policies recommends in the 1945 edition of "School Health Policies," the following:

 "Interschool competition for girls should be limited to invitational events, chiefly in the form of sports days or playdays where mass participation is emphasized. All girls' athletic activities should be taught, coached, and refereed by professionally prepared women leaders, and should be divorced entirely from any interscholastic contests for boys.

The National Section on Women's Athletics makes the following suggestions for those schools that participate in interscholastic athletics for girls:

1. That women be employed as coaches.
2. That not more than one game be played each week, a maximum of 10 each season.
3. That only teams a short distance away be played.
4. That no tournaments be entered.
5. That girls' games not be scheduled on the same night or day as the boys' games.
6. That no girls be allowed to participate until a medical examination has been given to determine physical fitness.
7. That basketball be considered a winter sport and not a fall sport, and that basketball practice begin not earlier than November.

ART

Publication No. 238, "Art in the Public Schools, Years 1-12, 1942," is a part of each teacher's professional resource material.

In the organization of the elementary school's weekly-daily schedules of blocks of time, art activities are considered as a need in every child's program. Art as another medium of expression is participated in through a variety of forms—drawing, painting, wood and soap carving, leather tooling, clay modeling, pottery making, interior decorating, carving in plaster of paris molds, weaving, painting and costuming. The integration possibilities of these suggested topics, in illustrating ideas or interpreting meanings in a topic of study, provide a functional approach for the creative expression of the child. Art as creatively refined expression should do more than develop the talents of the gifted few. Every pupil in the school should be encouraged to work with various art media and refine his expression through each of them.

Every elementary teacher is a teacher of art, as she guides and suggests the ways of living and doing in the child's activities of the school day. Language in oral or written communication more effectively expressed; a social studies problem more variedly and creatively illustrated; a science experiment more minutely done; a writing, spelling or arithmetic paper that shows consideration for line, proportion, and balance; a picture more appreciably en-

joyed; a school room closet more orderly arranged; an exhibit more pleasingly balanced; a classroom an artistic arrangement; pupils that grow in poise and graciousness—these are truly forms of art expression.

There will be need for the teacher to plan designated periods of art instruction for working on needed techniques and skills. In the majority of cases these needs will grow out of an art understanding that is purposeful to the child. At times growth will be hastened by teaching selected topics to all children, as figure drawing, designing, or intermediary hues. (Refer to Art in the Public Schools, pp. 53-60.)

Special art instruction is highly desirable, but pupils' growth in art is not wholly dependent upon the provision of a special art teacher. Growth in art is in a measure determined by the refined uses of the principles of harmony, proportion, balance, rhythm, and emphasis with the recognition of line and form and the color qualities of hue, value, and intensity, and the individual's application of design to his every activity.

In the secondary schools that have special art instruction, regular periods will be provided. When a secondary school does not have a special art teacher, the regular teachers will be able to stimulate much art work in their various subjects; and by using the State art bulletin the pupils can have experiences with many media, which will help them develop in the use and knowledge of art principles.

The State art bulletin gives a list of prints and where to get them on pp. 50-52. From this list of seventy-two prints for the primary grades and sixty-seven for the intermediate, the principals and teachers will be able to make the selection for the purchase of ten prints per grade as the minimum requirement for accreditment of an elementary school, or to add to the collection now contained in the school.

The following prints are suggested as additions to that list from which selections may be made.

Primary

Arledge. Zebras.
Derain. Guitar Player.
Devis. Master Simpson and His Boy.
Durer. Squirrels.
Eakins. Will Schuster Goes Fishing.
Goya. Don Manuel Osaria.

Landseer. Shoeing The Bay Mare.
Maune. Return to the Fold.
Millet. Feeding Her Birds.
Murillo. Children of the Shell.
Picasso. Mother and Child.
Picasso. Little Girl With a Basket of Flowers.
Sully. Torn Hat.

Upper Elementary

Boughton. Pilgrims Going to Church.
Cause. Primitive Sculptor.
da Vinci. Mona Lisa.
Degas. Woman With Chrysanthemum.
Dufner. Golden Days.
French. Minute Man.
Ginner. Salisbury Cathedral.
Hofman. Christ In Gethsemane.
Lawrence. Pinkie.
Le Brun. Artist And Daughter.
Martin. Harp of the Winds.
Picasso. The Bull Fight.
Raphael. The Sistine Madonna.
Raphael. Madonna del Granduca.
Rembrandt. Night Watch.
Renoir. Peonies.
Reid. Coming of the White Man.
Ruisdael. Mill At Wyk.
Trumbull. Signing Declaration.
Van Gogh. Cornfields In Provence.
Ver meer. View of Delft.
West. Penn's Treaty.
Wood. American Gothic.
Young-Hunter. Santa Fe Trail.
(Photo) Independence Hall.
Taj Mahal.
Lincoln Memorial.

The secondary school is referred to the list of sixty-seven in the elementary list plus the twenty-four given as types of prints for secondary school use.

The prints for art appreciation teaching purposes, in desirable colors, approximate sizes not smaller than 6 x 9 and preferably 7 x 10, mounted on stiff mount board of a neutral tone, may be

secured from the following companies: (Their most recent catalogs should be used in ordering.)

Artext Extension Press, West Point, Connecticut.
Colonial Art Company, Oklahoma City, Oklahoma.
F. A. Owens Publishing Company, Dansville, New York.

Other companies from which prints of varying sizes in color reproduction may be secured are given below. Where an illustrated catalog may be purchased it is valuable in selecting prints for teaching and for interior decoration purposes in the schools.

New York Graphic Society, 10 West 33rd St., New York, N. Y.
Associated American Artists, Inc., 711 Fifth Avenue, New York, N. Y.
American Artists Group, Inc., 106 Seventh Avenue, New York, N. Y.
Raymond and Raymond, 40 East 52nd St., New York, N. Y.

Schools desiring exhibition services may obtain a Handbook giving an index of traveling exhibitions, their descriptions, costs and a directory of booking agencies for same. Exhibitions may be obtained in combined media, architecture, ceramics, graphic arts, handicrafts, industrial arts, murals, oil paintings, sculpture, and water colors. The Handbook of National Exhibit Service may be obtained from the American Federation of Arts, Barr Building, Washington, D. C.

MUSIC

Since *Music in the Public Schools of North Carolina*, 1942, Publication No. 239, is available to all schools, one copy each having been distributed to elementary and high school teachers, it is not necessary to outline here any phase of the work in music education, grades one through twelve. Sections A and B of this bulletin contain a course of study in music. Section C provides information about activities of a general nature including The Music Festivals, National Music Week, and Using the Library in the Music Program. It is suggested that teachers study and adapt the suggestions for teaching music found in this bulletin.

As a supplement to the bulletin and in order to meet the many requests for a minimum and basic list of phonograph records for beginning a collection or a library of records for use in the schools, the following list is offered:

MINIMUM AND BASIC LIST OF RECORDS FOR USE IN TEACHING MUSIC APPRECIATION

(All page references are to *Music in the Public Schools of North Carolina*, 1942, Publication No. 239; record numbers are those of the Victor Company.)

Grade One

1. Run Run, Run, 20162
 Jumping 20162
2. In A Clock Store 35792 (See p. 72)

Grade Two

1. The Music Box 22167
2. Marches 22168 (See p. 75)

Grade Three

1. Phrase Sensing 22179
2. Dancing Doll 20688 (See pp. 76, 80)

Grade Four

1. Gavotte 20443
2. The Swan 1143 (Violin Cello) (See pp. 82, 83)

Grade Five

1. Flute—Danse des Mirlitous—Nutcracker Suite 8663
2. Mendelssohn—Spinning Song 1326 (See pp. 88, 89)

Grade Six

1. Cornet—Carnival of Venice 22191
2. Grieg—Triumphal March 35763 (See pp. 91, 93)

Grade Seven

1. Indian Music—By The Weeping Waters (Chippewa) 22316
2. English Horn—Symphony in D. Minor (French) 8961 (See pp. 97, 98)

Grade Eight

1. Baritone—"De Glory Road" 7486
2. Tone Poem "Til Eulenspiegel"—Strauss 11724, 11725 (See pp. 101, 102)

The above list may be considered sufficient for meeting the minimum requirements for the accreditation of an elementary school with reference to phonograph records. (See p. 15 of this Handbook, the section dealing with Instructional Equipment: Minimum Requirements.)

SELECTED PHONOGRAPH RECORDS

American Library Association, 520 North Michigan Avenue, Chicago 11, Illinois.

Norwegian Folk Tales told by Gudrun Thorne-Thomsen. Sold only as set of 5 12-inch records for $10.00.

SLEEPING BEAUTY. Grades 3-5.

GUDBRAND-ON-THE-HILLSIDE. Grades 4-6.

BALDUR. Grades 5-8.

TALES FROM THE VOLSUNGA SAGA (2 records). Grades 6-10.

Columbia Records.

M521. DICKENS' CHRISTMAS CAROL. Grades 5-10. Narrator—Basil 3 12-inch record album $3.50.

M553. TREASURE ISLAND. Grades 7-10. Narrator—Basil Rathbone. 3 12-inch record album $3.50.

Decca Records.

K12. WINNIE-THE-POOH and CHRISTOPHER ROBIN. Grades 2-5. Narrator—Frank Luther. 3 10-inch records $1.10.

DA376. ALICE IN WONDERLAND. Grades 4-8. Narrator—Ginger Rogers. 3 12-inch record album $3.50.

STORY OF THE JUGGLER OF OUR LADY, a Christmas story. Grades 7-9. Narrator—John Nesbit. 2 10-inch record album $2.10.

Victor Records.

Y301. LITTLE BLACK SAMBO. Grades 1-3. Narrator—Paul Wing. 3 10-inch records $1.05.

Y307. LITTLE ENGINE THAT COULD. Grades 2-4. Narrator—Paul Wing. 3 10-inch records $1.05.

Y306. RUMPELSTILTSKIN. Grades 2-4. Narrator—Helen E. Myers. 1 10-inch record 60¢.

Y8. THREE BILLY GOATS GRUFF and ANSWER THREE QUESTIONS IF YOU CAN. Grades 1-4. Narrator—Gudrun Thorne-Thomsen. 1 10-inch record 60¢.

Y7. SHEEP AND PIG WHO SET UP HOUSEKEEPING. Grades 2-6. Narrator—Gudurn Thorne-Thomsen. 1 10-inch record 60¢.

Y314. WHEN THE HUSBAND KEPT HOUSE. Grades 3-6. Narrator—Gundrun Thorne-Thomsen. 1 10-inch record 60¢.

BC24. THE TINDER BOX and IT'S PERFECTLY TRUE by Hans Christian Andersen. Grades 2-4. Narrator—Paul Leyssac. 3 10-inch records $1.05.

Y304. 500 HATS OF BARTHOLOMEW CUBBINS. Grades 3-6. Narrator—Paul Wing. 3 10-inch records $1.05.

BC32. NUMSKULL JACK and THE HAPPY FAMILY. Grades 4-7. Narrator—Paul Leyssac. 3 10-inch records $1.05.

Y308. ONE STRING FIDDLE. Grades 4-6. Narrator—Paul Wing. 3 10-inch records $1.05.

M909. MINE EYES HAVE SEEN THE GLORY. Grades 5-10. Narrator—Helen Hayes. 2 12-inch record album $2.50.

Includes "Star Spangled Banner," "America," "Pledge to the Flag." Especially useful for interpretation of choral poetry.

BC35. GRANNY PATCH AND HER MAGIC BASKET. Grades 2-4. Narrator—Alice Remsen. 3 10-inch records $1.05.

BC37. CHRISTMAS IN NORWAY. Grades 4-7. Narrator—Herman Ivarson. 3 10-inch records $1.05.

World Broadcasting Company, Sales Division, 811 Fifth Avenue, New York 22, N. Y.

The following records were prepared under the sponsorship of the Junior Leagues of America, Inc. The stories are incidents from well-known modern books for boys and girls. Each story is given as a dramatization on 2 12-inch records for $3.50.

CAPTAIN KIDD'S COW by Phil Stong. Grades 5-9.
IN CLEAN HAY, a Christmas story, by Eric Kelly. Grades 5-9.
MISCHIEF IN FEZ by Eleanor Hoffman. Grades 5-9.
SINGING TREE by Kate Seredy. Grades 5-9.
SMOKY BAY by Steingrimur Arason. Grades 5-8.
LEVEL LAND by Dola de Jong. Grades 6-8.
MOCHA THE DJUKA by Frances Neilson. Grades 6-8.
GIFT OF THE FOREST by R. L. Singh. Grades 6-9.
ON THE DARK OF THE MOON by Don Lang. Grades 5-8.
TRAP LINES NORTH by Stephen W. Meader. Grades 6-9.
STRUGGLE IS OUR BROTHER by Gregor Felsen. Grades 7-9.
THREE AND A PIGEON by Kitty Barnes. Grades 7-9.
WHEN THE TYPHOON BLOWS by Elizabeth F. Lewis. Grades 7-9.

SELECTED RECORDINGS FOR HIGH SCHOOLS

ENGLISH AND SOCIAL STUDIES

Columbia Records—Columbia Recording Corp., 799 7th Ave., New York, N. Y.

S271M. Lincoln's Gettysburg Address, read by Charles Laughton. 75¢. (Quoted by dealer at $1.00.)

M340. Four Excerpts from Hamlet; (2 records), read by Maurice Evans. $2.50 set..

M402. Album of Shakespearean Song; (4 records) by Bauman and Wolff. $3.50.

M325. Julius Caesar, Mercury Theatre *abridged* version, by Orson Welles and Company; (5 records). $5.50.

M375. Voice of Poetry, Vol. I, read by Edith Evans; (6 records). $5.00.

M419. Voice of Poetry, Vol. II, read by John Gielgud; (6 records). $5.00.

Masterpieces of Literature—Appreciation of Poetry, read by Norman Corwin; (6 records). $3.75.

Masterpieces of Literature—Our American Heritage (prose), read by Nesley Addy; (6 records). $3.75.

RCA Victor Records—R.C.A. Manufacturing Co., Camden, N. J.

M591. Calvacade of America Series. Abraham Lincoln (3 records) from the play written by Robert E. Sherwood from Carl Sandburg's Abraham Lincoln: The War Years, read by Raymond Massey. $3.50.

In this same series are albums of three records each on

Robert E. Lee	Nancy Hanks	Walter Reed
Francis Scott Key	Benedict Arnold	Thomas Paine

6827. Hamlet's Soliloquy; Gloucester's Soliloquy, read by John Barrymore. $2.00.

4248. To Be or Not to Be; O, That This Too Solid Flesh, by Shakespeare, read by Henry Ainley. $1.00.

4249. How All Occasions; Look Here Upon This Picture, by Shakespeare, read by Henry Ainley. $1.00.

American Ballads, sung by Paul Robeson; (2 records). $1.50.
White Cliffs, by Alice Duer Miller, read by Lynn Fontanne; (3 records). $3.50.

World Book Company. Yonkers-on-Hudson, N. Y.
Then Came War: 1939. Album of three twelve-inch records. $6.50. (20% discount to schools.)

Decca Records—Decca Records, Inc., 50 West 57th St., New York, N. Y.
Christmas Carol, by Dickens; read by Ronald Coleman; (3 records). $3.50.

Gramophone Shop, Inc., 18 East 48th St., New York, N. Y.
GB-3657. The Sermon on the Mount, and The Nativity of Our Lord; read by Lewis Casson. $1.50.
G-B8761/2. Twelve Poems by Dryden, Stephens, Tennyson, Sandburg, etc.; read by Verse Speaking Choir.
G-B8801 and B8857. Eleven Poems by Kingsley, Lindsay, De La Mare, Shakespeare, Hardy, etc.; read by Verse Speaking Choir.
GC1991. Macbeth, Letter scene and murder scene; read by Sybil Thorndike and Lewis Casson. $2.00.
G2-3535. Quality of Mercy from Merchant of Venice, read by Dame Ellen Terry.
C-D4006/7. Shakespearean Recital from four plays, read by Sir Johnston Forbes-Robertson; (2 records). $4.00.

Linguaphone Records—Linguaphone Institute, 51 RCA Building, New York, N. Y.
Cat. No. CL.D40140 (2 records). Readings of his own poems by John Drinkwater.
Cat. No. G.R.6 (1 record). Two scenes from Rip Van Winkle, read by Joseph Jefferson.
Cat. No. H A L (4 records, sold as a set). Readings by Marjorie Gullan.
Record 1. Lines from Endymion, Keats; Lines after Tea at Grasmere, Wadsworth.
Record 2. On First Looking into Chapman's Homer, Keats; Sonnet CXVI, Shakespeare; On His Blindness, Milton.
Record 3. II Samuel, 18th Chapter; I Corinthians, 13th Chapter.
Record 4. Popular English ballads, such as Sir Patrick Spens.
Cat. No. N.C.S. The Congo, Parts 1, 2, 3, written and read by Vachel Lindsay. $1.50.
Cat. No. N.C.S. Poems by Vachel Lindsay (3 records, sold as a set), read by Vachel Lindsay. Includes Chinese Nightingale, General William Booth Enters Heaven, and others. $4.50.
Cat. No. HMV-c2089. The Bells by Poe; Charge of the Light Brigade by Tennyson, read by Henry Ainley.
Cat. No. 28-29. Readings from Shakespeare (2 records), read by John Gielgud. $5.00.

U. S. Office of Education, Radio Service, Federal Security Agency, Washington 25, D. C.
Historic Speeches. Recordings of addresses by Roosevelt, Madame Chiang, Willkie, and others.
We Hold These Truths. Recordings of the Corwin Program on the 150th Anniversary of the Bill of Rights.

U. S. Library of Congress, Division of Music, Washington 25, D. C.
Folk song recordings. Write for catalog of Phonograph Records.

Pan-American Union, Music Division, Washington, D. C.
Recordings of Latin American Songs and Dances by G. Duran.

FRENCH LANGUAGE RECORDS

RCA Victor Records—R.C.A. Manufacturing Co., Camden, N. J.
French by Sound. Text by Raymond Weeks. Spoken by Louis Allard. (10 double-face records). $10.00.

Linguaphone Records—Linguaphone Institute, 51 RCA Building, New York, N. Y.
French Records. (15 double-face records, plus one record of pronunciation, with accompanying illustrated books, grammars, and other aids. Manufactured in England). $50.00.

Language Service Center, 18 East 41st St., New York, N. Y.
Hugo French Records. Set $10.50.
International Correspondence School French Records. Set $19.50.

Similar records of other foreign languages are available from each company noted above.

RADIO CODE RECORDS

Radio Code Practice. Pre-induction Kit for Radio Code Operation. $35.00.
Available from Crowell, Ginn, Noble, Scribner, or Silver.

NOTE: Prices may be approximate rather than exact.

INDUSTRIAL ARTS

A brief statement concerning industrial arts in both elementary and secondary school will be found in Publication No. 235, *A Suggested Twelve Year Program*, pages 253-259. Schools desiring to inaugurate a program in industrial arts may secure advice and assistance by writing to the State Department of Public Instruction.

HOME ECONOMICS

The course of study for home economics, Publication 204, Home Economics Education for High Schools, was published in 1938. This bulletin contains the suggested three year program with objectives, experiences and illustrative materials. The regulations under which the vocational homemaking program is administered will be found in pages 76, 77 of Publication 204. Revisions of the course of study are always mailed to each homemaking department and administrators as soon as published.

The courses in Farm Family Living and Urban Family, outlined in Publication No. 235, pp. 265-272, for the eighth grade are no longer the responsibility of teachers of Vocational Agriculture and Home Economics.

AGRICULTURE

Objectives and Policies.

Aims. The Program of Vocational Education in Agriculture in North Carolina gives emphasis to organized instruction, and includes as some of its more specific aims:

1. To provide instruction and training for proficiency and successful establishment in farming, related occupations, and for effective citizenship in a rural community.
2. To cooperate with others in raising the standard of living of the farm family and in making family life of the future happier and more successful.
3. To stimulate a desire for a richer community life and to develop the attitudes, the understandings, and the ways and means necessary for bringing it into being.

It is recognized that vocational agriculture can and should make valuable contributions to all of the aims of general education, particularly in assisting boys in making a wise choice of an agricultural or related occupation, but it should be kept in mind that it's major contribution is *assisting students in vocational agriculture in developing proficiency and making progress in farming occupations.* The responsibility of the teacher of vocational agriculture is to the high school students in agriculture, to out-of-school youth, and to adult farmers and their families. The purpose of the program is to provide not only for the basic local farm practices and underlying principles in the school, but also for practical experience through the supervised practice on the home farm in using fundamental facts and principles as guides to action in real farming situations. It is emphasized that provisions be made for such student practice now commonly designated as supervised farming.

A proper balance in the program is an essential. This balance will vary somewhat according to local conditions, but the intent is to give each phase of the work its proper time allotment and emphasis. All-day classwork alone would not serve the objectives of a program of vocational agriculture; neither would the spending of an inordinate amount of time and effort on evening classes and service to adult farmers. However, the need and opportunity for adult work will vary in different situations. A careful local evaluation should be made of each phase—all-day, part-time, adult classes, and community activities—and each phase should be given it's just share of time and emphasis.

To a rapidly increasing extent farming is a vocation based on scientific principles. Out-of-school youth and adult farmers need the educational services of the school to keep informed on the best farm practices and for an understanding of the scientific and economic principles involved in the operations of the farm and in the larger aspects of the occupation—economic, social, and political. Evening classes designed to meet the needs of the farmers and of their families should be planned and carried on in accordance with a balanced program of vocational agriculture.

There are services which teachers of agriculture can render to farmers and farm families which are legitimate and valuable, and there are community activities of importance. Teachers, however, should make a clear distinction between services of an educational nature and those performed as a matter of accommodation. Among the legitimate services are those providing leadership, initiative, and counsel in establishing and maintaining services needed in the community, such as advising on the procedure in organizing local associations to improve livestock or seed, establishing a potato curing plant, or other cooperative enterprises.

Other services available to evening class members may be of a technical or professional nature beyond the ability of many farmers to handle and which may occur only occasionally for any one farmer, such as making visits to diagnose crop diseases or insect infestations, assisting a farmer in reorganizing his farm and planning a cropping system, interpreting plans of a new building as a blueprint of a barn or poultry house, advising on sewage disposal or other farm improvements. Examples of services which teachers cannot be expected to perform except rarely and in emergencies are vaccinating hogs, terracing land, castrating animals, spraying, pruning and sexing chicks. Farmers can learn to do most of these things for themselves in adult farmer classes. As far as possible the daily schedule should be arranged to free the teacher of school duties early in the afternoon to enable him to carry on his community activities and supervise the work of both the in-school and out-of-school groups.

The teaching of agriculture to high school boys is not entitled to the term vocational, unless it gives adequate opportunity for learning to perform the important operations of the farm, as terracing, pruning, grading vegetables and fruits, thinning the wood lot, etc. To do many of these things requires instruction and practice in the field. It is essential therefore, that ample provision be made in the school schedule for periods of sufficient

length to go to the field or other location with time enough to accomplish the purpose of the field laboratory in question. Manifestly a one-hour period is entirely inadequate to carry out most of the important field operations or studies. To meet this need there should be a ninety-minute period each day or a two-hour period twice a week in addition to a one-hour period on the other three days.

The supervised practice program should be recognized as one of the most basic features of vocational agriculture. It's importance warrants very careful planning and most thorough supervision by the teacher. A boy's program should be comprehensive in scope and composed of large enough units to give the boy a challenging experience and a responsibility corresponding to his maturity and ability. There are boys who have poor opportunities for supervised practice on their own farms; they could substitute in whole or in part selected work experience, which would also be under the careful supervision of the teacher. A considerable part of a boy's class work should be derived from problems arising in planning and carrying out his supervised practice program.

The various types of related occupations represent a comprehensive field. Therefore, a high school course would naturally cover a rather broad area of information and skills, but opinion has become prevalent that less ground covered with greater thoroughness enhances the educational values and results in more satisfaction and self confidence, so essential in developing and maintaining pupil morale.

It is important that the all-day program be kept in balance, which again will call for an evaluation. Each phase of class work, farm shop, supervised practice, and the F. F. A. should be adequately provided for. On account of differences in individual situations these phases will vary somewhat in the amount of time and emphasis to be given them. For example, some boys will have better opportunities for supervised practice than others, while some will profit more from the farm shop and very practical activities. But care should be exercised in not allowing boys to over accentuate one phase and neglect others unless there is ample reason to justify it. To keep a program in balance requires analysis and careful thought followed by firmness and in many cases a subordination of self interest.

The Future Farmers of America in the white schools and the New Farmers of America in the Negro schools have a very important place in the program of vocational agriculture. There

should be a strong and active chapter in every department of vocational agriculture in the State. Properly conducted, such an organization serves as a strong morale builder; and it offers an opportunity for developing a kind of leadership needed in rural life. Attention, however, should be given to teaching the fundamentals underlying the highest type of leadership, as well as giving instruction and training in the techniques of public speaking. It offers opportunities for working together in organized and united effort on projects affording valuable training and experience.

Where conditions permits a joint program of home economics and vocational agriculture increases the value of the program. Farming is a cooperative enterprise involving the whole family, and it should be a unit working together in the closest harmony and cooperation. Instruction and experience in working together on problems of mutual interest and concern serves a very useful purpose in paving the way to better family living.

Both the teacher and the people of the community should realize the importance of the summer work of the teacher of agriculture. The success of a boy's supervised practice program depends in no small measure on careful supervision by his teacher, and this means numerous visits to the boy's home and the use of organized procedure in the supervision. Other summer work includes community work, supervising community canneries, teaching out-of-school groups in farm shop, visiting prospective students, collecting materials for class work, revising teaching plans for the coming year, collecting and filing bulletins and other teaching materials, taking inventory and putting shop tools and machines in proper condition, and making improvements in the classroom and farm shop.

Approved farm practices and skills are important, but a good understanding of the underlying principles and the scientific explanations of these practices, which are within the ranges of the boy's ability to grasp, add materially to the educational values, especially in providing a broader base of knowledge and understanding, so essential to the ability to make adjustments to changes if conditions and to develop resourcefulness The occupational world is large and complex; migration of population, especially of youth, has been increasing rapidly and gives promise of still greater increase. Therefore, an educational program in agriculture should be broad and basic enough in nature to facilitate changes from one occupation to another within the occupation itself.

A correlation of agriculture with other high school subjects is very desirable. For example, the science teacher can find excellent applications in farming practices, and the agriculture teacher can do much to motivate his students in their study of science. A working agreement among the teachers of agriculture, English and the social sciences could result in increased interest and an appreciation of the significance of the interrelationships and interdependence of these areas of knowledge.

In the present plan the problem of the returning war veteran and the part-time farmer is provided for in the instruction of out-of-school groups. Also, the needs of the prospective part-time farmer are to be taken care of by whatever modifications may be necessary in the all-day course of study.

In setting up and maintaining a balanced program and in making other plans and adjustments for meeting the needs of the community and making vocational agriculture serve the purposes for which it was organized, an advisory committee should be very useful. This committee, meeting at times with the district supervisor present, could work out problems and effect adjustments which would make for greater harmony and unity of purpose. The committee could also be very useful in promoting and interpreting the program to the people of the community and in securing their support and cooperation.

Veterans Farmer Training Program.

Institutional and on-the-job training in agriculture is available to Veterans of World War II through the Vocational Agriculture departments in the State. This training program for veterans is sposored by the State Board of Education under contract with the Veterans Administration. The Veterans Farmer Training Program consists of a minimum of 20 hours or organized instruction and one hundred hours of supervision per year. In addition to the organized instruction on and off the job, the veteran is required to work on the farm 36 hours per week during his training period. This training program is under the direct supervision of the teacher of vocational agriculture.

The general objectives of the program are: (1) to train veterans to go into the business of farming; (2) to improve the vocational efficiency of the veteran and to further develop a consciousness of his responsibility as a citizen of his community.

TRADE AND INDUSTRIAL EDUCATION

Two types of courses are offered for high school students: (1) Day Trade, (2) Diversified Occupations. A statement giving the aims of each type of course and basic requirements for each type will be found on pages 272-276 of Publication No. 235, *A Suggested Twelve Year Program.* Special assistance may be secured by writing to the Director Trade and Industrial Education, State Department of Public Instruction.

BUSINESS EDUCATION

The course of study in business education will give ample suggestions to teachers and principals. For additional suggestions with reference to curricula reference should be made to Publication No. 235, pages 276-278. The same publication discusses briefly the relationship between basic business education and vocational business education.

DISTRIBUTIVE EDUCATION

Distributive Education in the high school is a one-year vocational course designed to prepare students for careers in retail or wholesale businesses. Although normally a terminal course, it is also recommended for students planning to take college training with majors in business education, distributive education, business administration, retail advertising, commerce or similar fields.

If the principle is accepted that education should prepare pupils to do better that which they are going to do anyway, then high schools must offer vocational training for the large number of boys and girls entering distributive trades each year. In North Carolina and in the United State as a whole, one of every eight employed persons is engaged in some phase of distribution. A survey of Mecklenburg County shows that more high school graduates enter retailing in that county than any other single occupation.[1] A study of the graduates of the Greensboro High School lead to the same conclusion. Each year approximately 9,000 young people leaving school in North Carolina begin work in some phase of distribution. For the most part they are untrained. They are so poorly equipped that they can hold only the poorest paying jobs. In the retail stores the better jobs are being filled too often by personnel from other states.

[1] S. Marion Justice, "Implications of a Follow-up Study of School Leavers," OCCUPATIONS, May, 1941, pages 563-6.

The Distributive Education program is operated in a cooperative training basis. Students are placed as trainees in retail or wholesale establishments where they work at the standard beginning wages for a minimum of 15 hours per week. In school the student devotes one period to the study of elements common to all phases of distribution. This study is based on the course outline developed by distributive education personnel in the State and issued by the Department of Public Instruction.[2] It covers such topics as: Store Organization, Advertising, Display, Merchandising and Stock Control, Salesmanship, Color Line and Design, and Merchandise Information. Another period is devoted to individual study under the supervision of the coordinator of the techniques, skills and information required to do the immediate job effectively and to earn promotion. Under this plan the student's work experience is correlated with his formal education in the school. Through this cooperative training he gains a better understanding of the kind of business in which he has chosen to make his career.

A Distributive Education program should be initiated in a school on evidence of need in the community. A follow-up study of former graduates and drop-outs will give a fairly reliable indication of what present and future students will do. It is suggested that in communities having a population of 8,000 or more some study be made to determine the advisability of establishing a cooperative program in Distributive Education. In smaller communities where the number of graduates entering distributive trades does not justify the employment of a full-time coordinator a course in retailing might be offered for seniors by any qualified teacher. In such cases it is suggested that some provision be made for work experience.

Complete information regarding this program may be obtained from the State Supervisor of Distributive Education.

[2] A COURSE OF STUDY FOR THE HIGH SCHOOL DISTRIBUTIVE EDUCATION CLASS N. C. Department of Public Instruction, 1945.

DIRECTORY OF PUBLISHERS AND OTHER COMPANIES

Acorn Publishing Co., Inc., Rockville Centre, Long Island, New York.
Allyn & Bacon, 181 Peachtree St., N. E., Atlanta 3, Go.
American Book Company 200 Pike St., Cincinnati 2, Ohio.
American Council on Education, 744 Jackson Place, Washington, D. C.
American Education Press, Inc., 400 S. Front St., Columbus 15, Ohio.
American Forestry Assn., 919 17th St., N. W., Washington, D. C.
American Library Association, 520 N. Michigan Ave., Chicago 11, Ill.
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D. C. Heath & Company, 50 Pryor St., N. E. Atlanta 3, Ga.
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Henry Holt & Company, Inc., 257 4th Ave., New York.
Houghton Mifflin Company, 2 Park St., Boston 7.
International Textbook Company, 1001 Wyoming Avenue, Scanton, Pa.
Interstate Printing Company, 132 N. Walnut St., Danville, Ill.
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McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 18.
McKnight & McKnight, 109-111 W. Market St., Bloomington, Ill.
McCormick-Mathers Company, Wichita, Kansas.
The MacMillan Company, 60 5th Ave., New York 11.
Manual Arts Press, 237 N. Monroe St., Peoria, Ill.
Mennonite Publishing Company, Scottdale, Pa.
Mentzer, Bush & Company, 2310 S. Park Way, Chicago.

G. & C. Merriam Company, 10 Broadway, Springfield, Mass.
Chas. E. Merrill Co., Inc., 400 S. Front St., Columbus 15, Ohio.
National Education Assn., 1201 16th St., N. W., Washington.
Thomas Nelson & Sons, 381-385 4th Ave., New York.
Newsom & Company, 72 5th Ave., New York.
Noble and Noble, Publishers, Inc., 72 5th Ave., New York 11.
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Prentice-Hall, Inc., 70 5th Ave., New York 11.
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Rand McNally & Company, 111 8th Ave., New York.
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The H. M. Rowe Company, Baltimore, Md.
Russell Sage Foundation, 130 E. 22nd St., New York.
Benjamin H. Sanborn & Company, 221 E. 20th St., Chicago.
W. B. Saunders Company, West Washington Sq., Philadelphia.
G. Schirmer, Inc., 3 E. 43rd St., New York.
Scott, Foresman & Company, 50 Pryor St., N. E., Atlanta 3, Ga.
Charles Scribner's Sons, 597 5th Ave., New York.
Silver Burdett & Company, Everett Bldg., 45 E. 17th St., New York 3.
L. W. Singer Company, Chicago.
Turner E. Smith & Company, 441 W. Peachtree St., N. E., Atlanta 3, Ga.
Southern States Work Conference, Office of Secretary, Department of Education, Tallahassee, Fla.
South-Western Publishing Company, Inc., 245 5th Ave., New York.
University of Chicago Press, 5750 Ellis Ave., Chicago 37.
University Publishing Company, 1126 Q Street, Lincoln 1, Nebraska.
University of North Carolina Press, Box 510, Chapel Hill, N. C.
R. C. A. Victor Company, Inc., Educ. Dept., Camden, N. J.
Webster Publishing Company 441 W. Peachtree St., N. E., Atlanta 3, Ga.
John Wiley & Sons, Inc., 440 4th Ave., New York 16.
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H. W. Wilson Company, 950-972 University Ave., New York 52.
M. Witmark & Sons, 1250 6th Ave., New York.
John C. Winston Company, 1006-1020 Arch St., Philadelphia 7.
World Book Company, 441 W. Peachtree St., N. E., Atlanta 3, Ga.

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